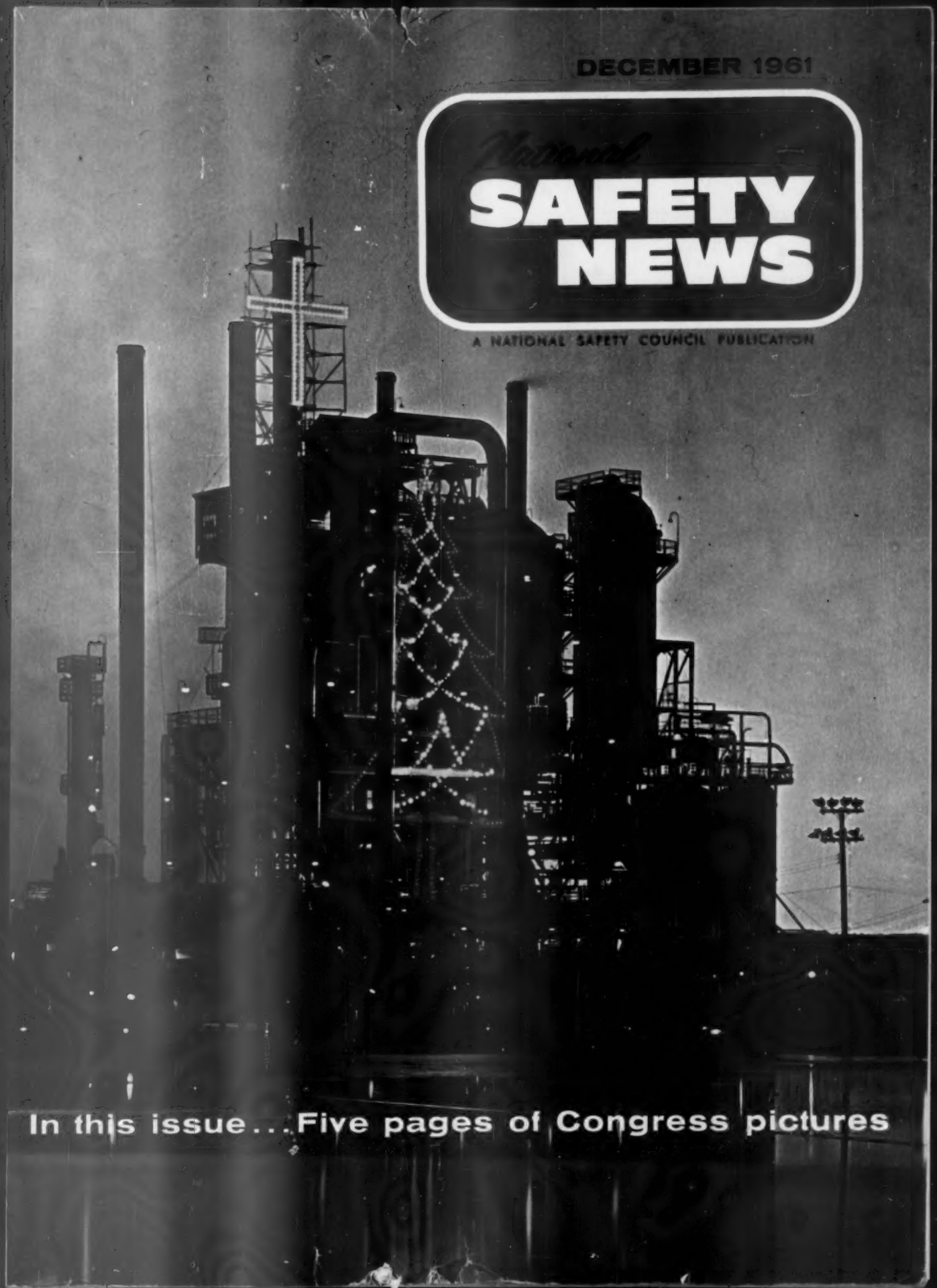
DECEMBER 1961

National SAFETY NEWS

A NATIONAL SAFETY COUNCIL PUBLICATION



In this issue... Five pages of Congress pictures

Here's the secret —
The slim, trim and safe
#300 STEEL TOE

A-OK
and in orbit

The smarter-looking tapered steel toe for real dress or casual shoes

THE NEW PROFILE
300 STEEL TOE

SAFE ON THE JOB — SMART OFF THE JOB is the unanimous verdict reached by executives, foremen, and workers alike, who are wearing safety shoes with the protection of the new 300 tapered steel toe.

This new slim, trim profile in safety shoes has really caught on. Wearers find them equally protective in the plant or for such precarious home jobs as using the power lawn mower. They like the sleek, smart, comfortable dress or casual styles being offered by all safety shoe suppliers.

And remember — the style 300 is SAFE. Meets all ASA requirements, because it is made from the best steels, austempered for greatest possible protection. Make sure that your men know about the smart shoe styles with the new 300 steel toe. They'll all agree — "they're A-OK!"

SEND for FREE POSTER

Designed especially for bulletin boards, this poster will help you to educate your workers to wear safety shoes for foot protection on the job.
WRITE FOR YOURS TODAY

Manufacturers of 19 styles of steel toes all AUSTEMPERED for maximum protection

Safety Box Toe Company

812 STATLER BUILDING . BOSTON

CIRCLE 1 ON READER CARD

National SAFETY NEWS

A NATIONAL SAFETY COUNCIL PUBLICATION

VOL. 84, NO. 6 DECEMBER 1961

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NATIONAL SAFETY COUNCIL

Chartered by the Congress of the United States

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THE COVER

A big catalytic cracking unit holds up Christmas decorations formed of colored lights. The unit, part of the Sunray Mid-Continent Oil Company's Tulsa, Okla., refinery, doubles as a holiday tree each year's end.

38,000 copies of this issue were printed

VOICE of the READER

Comments on topics of current interest are invited. They need not agree with the views of the editors

The fleet's in

FLEET POST OFFICE, SAN FRANCISCO. The attached enclosure from NATIONAL SAFETY NEWS was noted with more than casual interest by personnel of the Ground Electronics Division, U.S. Naval Air Station Navy 520.

The National Safety Council has an impressive safety record, however, it appears that this record may be of short duration for the following reasons:

a. Miss Rusk appears to be off balance judging from her position on the ladder.

b. Although a magnifying glass failed to bring out the type of shoes she is wearing, we are curious to know if she is wearing high-heeled shoes.

c. She is due for a bruised finger judging from the angle of impact that the hammer will make with the nail.

d. Mr. Petersen is holding a plaque in lieu of taking a firm hold on the ladder.

e. Someone should have been holding Miss Rusk (P.S. Have thirty volunteers).

The moral of all this is, we do read your magazine.

— JOSEPH F. OSTERMAN
CWO3, USN
Ground Electronics Officer
Naval Air Station 520

We know you liked the picture, fellows, but please read our captions, too. Her name is Miss Risk, *not* Rusk.

October issue

LONGVIEW, WASH. With reference to your October 1961 issue, I have several criticisms:

Page 6: Your example of jewelry as a hazard loses some validity because the man was standing on a hazardous base. For all I know, the ring saved his life by catching on a protrusion as he fell.

Page 7: It's good to see that the generously sized neoprene glove protects the man well above the wrist as he shovels soap (or is it flake caustic?) in the left hand picture. The operation pictured on the right is not defined but I notice a bared right arm and no face shield. Is he wearing safety glasses, protective cream ("Kerodex" take notice), or a protective safety engineer?

At any rate, the difficulty of making snide comments to such a professional magazine is wearing me down.

— VICTOR STIBOLT
Technical Center
Weyerhaeuser Company

SAUSALITO, CALIF. Thank you very much for the excellent coverage that

— *To page 94*

NATIONAL SAFETY COUNCIL

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HOW TO BE PREPARED FOR THERMAL/ELECTRIC BURNS

Questions and Answers To Help You Select An Effective First Aid Treatment

Years of experience in emergency treatment of burns has established certain criteria widely used in evaluating the effectiveness of various preparations. We list them below—in question form—and then give answers for ABT (the Bullard After Burn Treatment).

1. Is it non-toxic?
Yes. ABT may be used safely around the face, nose, eyes and mouth. It contains Rosemary oil, oil of geranium, oil of petrolatum, oxyquinoline sulphate, and small quantities of miscellaneous oils. Even if swallowed, ABT has no harmful effects.

2. Can it be applied easily?
Aerosol makes application of ABT easy, quick and accurate. The soothing spray reaches every part of the wound—no matter how deep—without applying painful pressure.

3. Is it easy to remove?
Although there is no need to remove ABT from a wound, it washes off easily in running water. Thus no painful scraping is necessary in order to examine the wound.

4. Will it relieve pain?
ABT soothes immediately and helps reduce pain. May be sprayed directly on burn or on gauze bandage covering the area.

5. Will it kill tissues?
ABT will not cauterize or kill tissues. The soothing oils in ABT maintain the edges of the skin layer in condition contributing to more rapid healing.

6. Is it non-irritating?
With rare exceptions, the answer is yes, since ABT contains no water, acid, alkali or other ingredients usually considered as possible irritants.

7. Is it antiseptic?
Yes. ABT contains certain antiseptic agents which have proven effective bacteria inhibitors. The sealed aerosol container prevents contamination from outside sources.

Use Tests Prove ABT's Effectiveness
Extensive use tests by physicians, nurses, fire departments, police departments and rescue squads have established the effectiveness of ABT. By including ABT in your first aid supplies, you are providing a non-toxic, pain relieving treatment that can be used safely on simple or severe burns from scalding, fire, sun or electricity.

Available in 3, 5 and 11 oz. cans. Also in 20 cc. aerosol plastic bottles (two are packaged in a double unit pack) for use in First Aid kits. We will gladly supply physicians, nurses, and safety engineers with samples and literature. Contact your Bullard Safety Distributor or write:

E. D. BULLARD COMPANY SAUSALITO, CALIFORNIA
INDUSTRIAL SAFETY EQUIPMENT
EMERGENCY THERAPEUTICS FOR INDUSTRY

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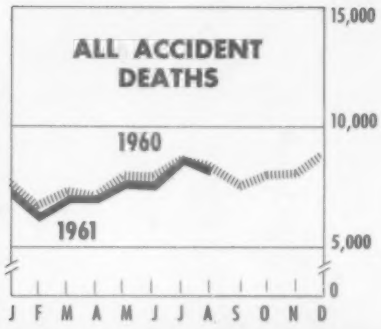
CIRCLE 4 ON READER CARD

THE ACCIDENT BAROMETER

Prepared by the Statistics Division
National Safety Council

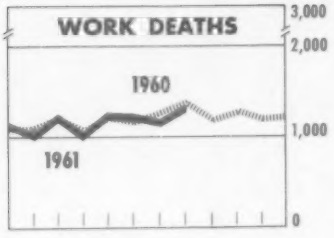


WORK INJURIES

21 NATIONAL SAFETY COUNCIL CONTESTS

Disabling Injury Frequency Rates

	1961	1960	Change
August	7.27	6.92	+5%
Eight Months	6.29	6.24	+1%

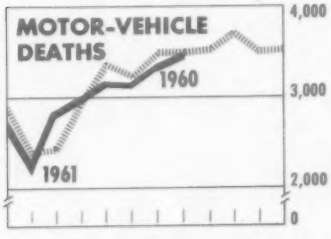


MOTOR-VEHICLE DEATHS

EIGHT MONTHS 1961

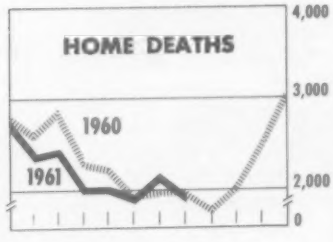
CHANGES IN DEATHS

Number of Reporting States		Number of Reporting Cities Over 10,000 Pop.
22	UP from 1960	273
2	SAME as 1960	195
23	DOWN from 1960	290



GREATEST PER CENT REDUCTION IN DEATHS

States		Cities Over 200,000 Pop.	
Delaware	−35%	Charlotte, N.C.	−58%
Vermont	−26%	Kansas City, Mo.	−55%
New Hampshire	−24%	St. Paul, Minn.	−52%



HOME AND PUBLIC DEATHS

EIGHT MONTHS 1961

HOME DEATHS

UP from 1960:
Poisonings

DOWN from 1960:
Poison gas
Suffocation
Falls
Firearms
Fires, burns

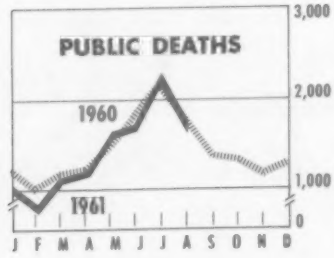
AGE GROUPS
Change from 1960

Home		Public
Down	0- 4	Up
Down	5-14	Down
Down	15-24	Down
Down	25-44	Down
Down	45-64	Down
Down	65-74	Down
Down	75 & Over	Down

PUBLIC DEATHS

UP from 1960:
Fires, burns

DOWN from 1960:
Transportation
Firearms
Falls
Drownings



Here's why genuine SIGHT SAVERS are all ways your best buy for cleaning safety glasses

More silicones!

Sight Savers® have a higher silicone content than other tissues. They're *completely soaked* in silicones (on both sides) for greatest cleaning and polishing action.

Best size!

Years of experience have proved Sight Savers to be *exactly the right size* for most efficient cleaning. No wasted paper.

Universally preferred!

Millions of eyeglass wearers are *already* loyal users of nationally advertised Sight Savers. And Sight Savers are endorsed by many leading opticians.

Government approved!

Sight Savers meet Federal Government Specification UU-P-313c for lens cleaning tissues.

Efficiently dispensed!

Sight Savers *Cleaning Stations* provide the easiest way imaginable to put greatest eye safety at everybody's fingertips: They deliver one Sight Savers tissue at a time; They're sturdy — all-steel construction — easy to install anywhere; Require no maintenance; Refillable before empty; Fool-proof, pilfer-proof; And their attractive blue and gold design blends with any decor in plant or office.

Standardize on Sight Savers as a basic part of your eye safety program. Order from your safety supply distributor.

first in silicones

Dow Corning CORPORATION
MIDLAND, MICHIGAN

Note: If you use PLASTIC eyewear-specify **RAYON SIGHT SAVERS**

GUARANTEED NOT TO SCRATCH!

CIRCLE 5 ON READER CARD

news briefs

Caution—DIP

Those who think snuff left the scene when buggy whips disappeared might be surprised to learn it is still very much a part of things—especially in industries where smoking is prohibited. At Union Carbide's Texas City chemical plant 1,400 boxes were sold during a recent month. In the same month 2,240 packages of chewing gum were sold.

Guns and glasses

Detroit Edison, which has a rifle range, reports a firing accident in which safety glasses saved a man's eyesight. The range manager was asked to test a surplus .30 caliber rifle. The heat treating of the receiver was faulty, and the rifle shattered into dozens of pieces of wood and metal. One lens of the glasses also shattered, but the only injuries were cuts and burns to flesh—no eye damage.

Witless welding

During a welding job on a spray booth, a drop of molten metal fell on a hose, burning a hole in it and releasing paint under pressure. The paint began to burn, but no one turned off the pump. The fire itself finally stopped the motor, but only after extensive damage was done.

Our weapons harmless?

The missile men at Huntsville, Ala. have worked for ten years without a fatality, in spite of the usual exposures of machining and stamping metal, handling heavy loads overhead, and mixing touchy rocket fuels. One study showed that the wives of missile men, exposed to 120-volt current, wet floors, heavy laundry baskets, and other household hazards, were more liable to injury than were the men making deadly weapons.

Airless spraying hazards

The high concentrations of finely divided paint pigments and solvents caused by the heating and high pressure used in airless spraying can expose painters and helpers to contaminated atmospheres.

Boating mistakes

A boating accident reported by a company located on the Gulf raises several questions: 1. A plank split. (Had the hull been inspected?) 2. The boat sank immediately. (Why didn't it have flotation built in?) 3. The men barely had time to don lifejackets. (Had they been told to keep the jackets handy at all times while afloat?) 4. They weren't missed for several hours. (Did the boat have a radio transmitter?) 4. A deputy sheriff looked for them all night. (Did they carry distress flares?) In spite of all these chances for disaster the three men aboard were rescued—after 18 hours in the water.

Mercurial mercury batteries

The long-lasting mercury batteries coming into more widespread use must be disposed of properly when they are no longer useful. If thrown into a fire, they can explode violently. They have been known to blow with enough force to drive pieces of battery case into concrete walls.

Rent-a-belt

Industrial safety men in companies whose executives use rental cars will be glad to learn that seat belts will be more readily available to the traveling man. The Avis Rent-a-Car System will install SAE-approved seat belts in its 1962 fleet.

Swimming pool fires

Storage of calcium hypochlorite is causing pool owners and operators trouble. Fires and explosions have occurred in the containers in which the chemical is kept. Fire fighters approaching such a fire should use a water spray and wear protective clothing and self-contained breathing apparatus.

Polyurethane can irritate

Heating and air conditioning systems are now being insulated with polyurethane plastic. If this resin is incompletely cured, it can be hazardous to workers who cut or saw it. Toluene diisocyanate, a strong eye, skin, and lung irritant, can be released during working of the plastic.

Crankcase blowby progress

All 3,500 cars in the Los Angeles County fleet have been equipped with blowby controls. All new cars now being sold in California are equipped with the devices, but Los Angeles County officials chose to equip their own cars with the low-cost devices rather than wait until the cars were replaced. The air pollution control district of the County of Los Angeles has issued an 80-page report on their fleet installations.

Jim Saul

It's New! A Scott Respirator with these "First-Time" Features:
• Demand *and* continuous flow regulation
• Compact, light-weight, mask-mounted regulator for greater wearing comfort
• Control knob that brings a face-cooling breeze for relief in humid working areas
• Adjustable air flow for complete elimination of any fogging under adverse conditions
• Quick disassembly without tools
Write for complete information

SCOTT SCORES AGAIN

THE FIRST RESPIRATOR WITH MASK-MOUNTED REGULATOR

EST. 1932

SCOTT AVIATION CORPORATION

211 ERIE STREET • LANCASTER, NEW YORK

Export: Southern Oxygen Co., 3 West 57th Street, New York 19, N. Y.

Canada: Safety Supply Co., Toronto — Branches in Principal Cities

CIRCLE 6 ON READER CARD

CIRCLE 7 ON READER CARD

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EAR
PROTECTORS

SLIM DOMES

COMFORTABLE and
LIGHTWEIGHT

REMOVABLE
VINYL
EAR SEALS

Straightaway®
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DAVID CLARK CO.
INC.
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WORCESTER, MASS.

CONSULTATION CORNER

Questions on accident prevention, fire protection and occupational hygiene are answered by mail. A few are selected for publication

By L. C. SMITH, Industrial Department, NSC

Ground and Bond For Pipeline Repair

Question: Is it necessary to bond joints when repairing pipe lines carrying flammable liquids and gases if the pipes are already grounded?

Answer: Before breaking the joints of pipe lines carrying flammable liquids or gases, the joints should be bonded to prevent static sparks or stray current sparks from causing explosions. Where pipe joints are separated by means of a gasket or accumulated paint you have a situation that can produce enough difference in potential to cause a spark when the joint is broken. The bond would keep both sides of the joint at the same potential. When the joint is broken no spark would be created. Therefore, bonding is necessary for full protection even if the pipe is grounded.

Laminated Glass Vs. Tempered Glass

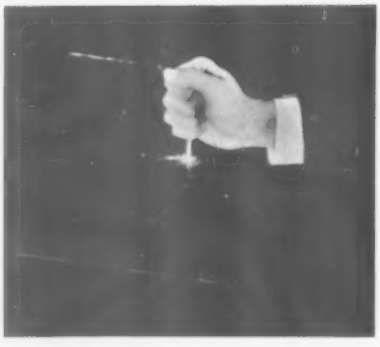
Question: We are concerned with getting the most suitable glass for use in our cranes, power shovels, and other earth-moving equipment. We wish to use a glass that will protect against flying rocks and broken cables, but we have received some conflicting stories about some of the tempered glass now being marketed.

Any information that you could supply would be appreciated.

Answer: According to our information, cranes, power shovels and similar machines come equipped with safety glass. The booklet of general safety requirements published by the Corps of Engineers, U.S. Army, also stipulates that safety glass shall be used on machinery or equipment of this type.

When such glass is replaced it should be replaced with safety glass. You then have a choice of laminated or tempered glass. Tempered glass must be used in sizes as received from the supplier since it cannot be field cut. It has low resistance to rough or sharp edged missiles and, in addition, it shatters into tiny gravel-like fragments when fractured, offering little visibility.

Consequently, laminated safety glass would probably give you the best results.



Tempered glass, top, consists of one sheet or plate, heat treated and quickly cooled to produce a tough, hard outer skin. Tempered glass is extremely resistant to breakage when struck by blunt objects. When the outer skin is penetrated, the glass disintegrates due to the release of the internal stress forces. Laminated glass, bottom, consists of two pieces of glass bonded together by a plastic interlayer, called polyvinyl butyral. When laminated glass is broken the inter-layer tends to hold all of the broken fragments together.

Wil-Gard® Neoprene Gloves Love Tender Skin

INDUSTRIAL GLOVES
Polyethylene (Poly-D)
Natural Rubber
Soft-Lined Latex
Unlined Latex
Soft-Lined Black Neoprene
Unlined Black Neoprene
Buna-N
Polyvinyl Alcohol
(Compar Plastic)
Polyvinyl Chloride (Tru-Touch)

LINEMEN'S GLOVES
Natural Rubber
Leather Protectors

DRY BOX GLOVES
Wil-Gard Interchangeable
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Sleeve and Glove Combination

Wil-Gard Neoprene Gloves take care of troublesome hand protection problems in many types of production — superior resistance to most oils, fats, greases, petroleum solvents and caustics used in modern industrial operations. Compounded with the Wil-Gard balanced formula, they do not deteriorate from age or sunlight . . . Allergen-free for tender skin, curved fingers for fine fit . . . Wil-Grip Firmhold finish and soft-lined features if desired.

Wil-Gard Neoprene is one of 12 quality lines — 70 different styles and compositions — by the Wilson Rubber Company. Wilson Catalog will give complete information and provides a handy chart to assist in picking the proper glove for your particular application. Write to Wilson today, or contact your distributor.

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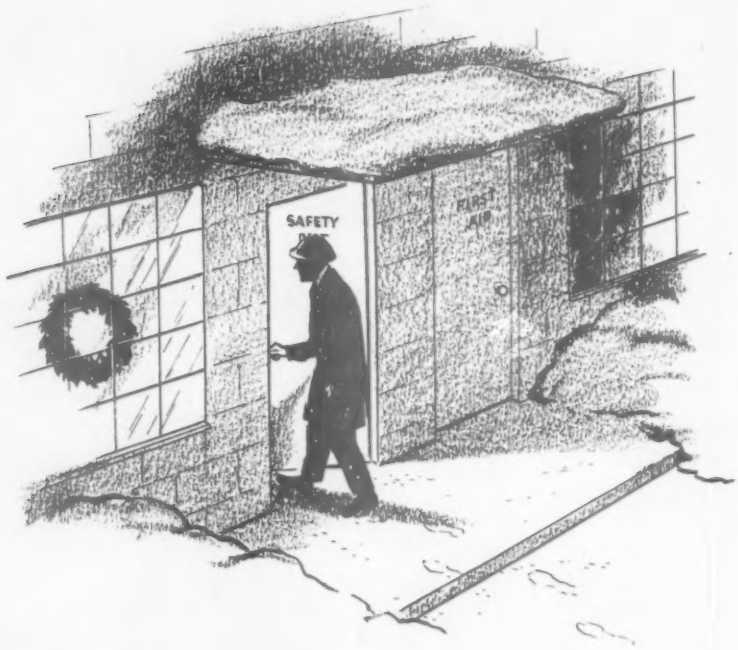
THE WILSON RUBBER COMPANY INDUSTRIAL DIVISION CANTON 6, OHIO
A Division of Becton, Dickinson and Company

CIRCLE 8 ON READER CARD

Christmas Pangs

Last-minute jitters keep the Project safety staff hopping



Fiction by BILL ANDREWS

THERE ARE NOT too many things about the work of a safety engineer that fall into pat, repeated patterns. But, in a very real sense, my safety engineering Decembers do.

Just about this time of year, when the shop windows are beginning to look a little tawdry, when the blaring carols of the loudspeakers begin to irritate, and when my wife begins to get into minor tizzies over holiday preparations – it is only then I begin to get sentimental about Christmas.

With a week of December work behind me, I realize that only two more work weeks separate me from Christmas. And with that realization comes the fear, not entirely rational, that some failure of mine may spoil some family's Christmas Day.

I have tried to argue with myself on this point. After all, I tell myself, the results of accidents are just as serious in February or October. A wife beside a hospital bed suffers acutely then, and children will miss a father's presence just as much.

And yet –there it is! I do care that no family whose wage earner is under my protection shall greet a Christmas morning with new grief in its heart.

This is sentimentality, but I think it is a useful kind of sentimentality. For it is a stimulus to activity, not a deterrent. No matter how sentimental I may be, I am no wishful thinker who thinks he can daydream perils out of existence.

I predict, from past performance over more than a quarter century, what these next two weeks will be like. They'll be busy!

Next week, I'll put extra pressure on my legmen – Bert, Lee, Lou. I won't be too much interested in Lee's big planning operation for the redesign of the access roads of the new section of the Project, scheduled to open in May 1963. I'll take advantage of the fact that Bert's safety committeemen are agitating for a rest from meetings to get some shopping done. And Lou, my new and already highly prized assistant, will have to put aside his Thursday course at Midwestern Tech. To each of them, I will say, "Look, this is holiday time. There are all kinds of special hazards – distraction, drinking, the darkness at quitting time, general relaxation of discipline. You guys get out and wear down your shoe leather. Stay on top of the plants. Make your presence felt. Hammer at fundamentals – not at long-range schemes. Look for goggle violations, guarding violations, housekeeping, booze, out-of-bounds smoking, horseplay. I don't care too much about reports. Just get out in the plants, stay in 'em, and work on the supervision to keep discipline up."

And maybe they will believe that I'm really talking about an expected change of mood, and consequent change in the nature of the hazards. Or maybe they will know (Lee almost certainly does after all our years together) that I'm really expressing my sentimental determination not to let a December accident spoil a family's Christmas. I don't think it matters much what they think. I know my three boys, and if I put the heat on them, they will go and do what I say, and that will strengthen, for these next two weeks, the front line of defense against accidents.

By calling them to an intensive concentration upon the personal causes of accidents, I leave myself responsible for the larger causes – the new process being installed at Mort Chemical (I'm still uncertain about those enclosures on the stills) – the bad example of management's relaxation of both self-discipline and plant discipline – my long-running argument with Project protection for the deployment of more uniformed men to afternoon traffic direction during the winter.

I'll be busy next week between the drafting rooms of the chemical engineers, the lounge of the Executives' Club, and the office of the Project protection chief.

But when the last pre-Christmas week rolls around, I'll begin really to suffer. I won't be able to work off my sentimentality by issuing more orders to my assistants. I'll

– To page 50

WIDER, DEEPER FRAME · 40% MORE VENTILATION · INTERCHANGEABLE LENS · WIDE RUBBER HEADBAND SOFT, SMOOTH, PLIABLE PLASTIC

2 Soft, rolled frame edge provides comfortable, contour fit on any face
3 Pliable nosepiece adjusts 1-3/4-oz MonoGoggle comfortably to any nose
4 Narrower lens retainer increases effective lens area
1 Wider, deeper, softer frame fits over largest spectacles
5 Extra-wide, washable rubber headband holds securely with less tension
6 New headband attachment lug eliminates slippage
7 Ventilated models have 40% more air slots than other makes

Available in 11 styles: ventilated, indirect ventilation, unventilated. Distortion-free lens of clear or green acetate, corrosion-resistant clear vinyl. Clear, green, or yellow tinted frames.

New WILLSON® MonoGoggle®

#200 SERIES (Fits over all prescription glasses)

Write for Bulletin No. W6116. Complete specifications and data on bonus values in all-purpose eye protection by... **Willson Products**

A Division of The Electric Storage Battery Company
Reading, Pennsylvania • In Canada: Safety Supply Company

an ESB product

CIRCLE 9 ON READER CARD

THE SAFETY VALVE

Nothing human is alien to me
—TERENCE

Aids to Survival

SURVIVAL IS A WORD that brings up a grim picture these days. But fallout is not the only threat to our continued existence. A more immediate menace is the highway crash which may pile up several crumpled cars with multiple casualties.

We can't say nobody is doing anything about it. A lot of research is being done in the development of safer cars. And many delegates to the recent National Safety Congress had a chance to inspect one of these sensational new chariots.

Liberty Mutual's "Survival Car II," the result of several years of study and experiment, was a fascinating mechanism that looked as if it had been designed to navigate outer space. But it had been built with marvelous ingenuity to protect people from their own failures.

The basic car was a 1960 four-door Chevrolet Bel Air sedan, just like thousands of others that had rolled off the assembly line. After the engineers had worked it over, it had 24 specific safety features, few of which are found in conventional cars.

Power brakes and power steering, of course, are standard or optional equipment on most cars. Seat belts are being installed by an increasing number of prudent motorists but those in Survival Car II surpass anything now on the market.

"Packaging the passenger" describes the basic concepts behind the survival car. Its designers have tried to give the occupants the same protection as a crate of eggs in transit.

An intriguing feature of the new car is a signal system to awaken the driver if he should fall asleep, or stop the car if he doesn't awaken.

The pedestrian hasn't been forgotten either. A smooth hood over the engine is designed to reduce injury hazards to anybody on foot who happens to get in the way.

No estimates of the cost of a survival car, if it gets into production, have been announced. The demonstrator wouldn't risk a guess. But both automobile manufacturers and insurance companies realize that safety progress is limited by the price the public can or will pay.

If human beings were as susceptible to improvement as machines, accident rates and insurance costs would drop. But there is the possibility that some drivers might find the added protection a challenge to speed and take more chances in passing and cutting in.

The net result might be the same as with filter fags. The addict finds he can inhale more before reaching his saturation point of tar and nicotine – and frequently does.

When it comes to motivation for careful driving, the possibility of death or disability is not the only consideration. The expense, inconvenience, and embarrassment of even a minor bump should be enough to make a person stop and think before taking that chance.

The Rains Came

BEING LOCATED in one of the higher spots of the Chicago area, Park Ridge escapes the devastating floods that periodically deluge the less favored river towns. But every few years a downpour dumps more water on the city than its storm sewers can handle. So the murky mess backs up into several hundred basements.

One of these near disasters descended on us recently while I was in the dentist's chair. I watched the water on Northwest Highway rising until it topped the hub caps of cars parked out by the curb. A few trucks and cars managed to get through without stalling. Well, it took my mind off the drill.

Our house escaped with a mere trickle of water in the basement. Our daughter who lives a mile away reported a flood level of 3½ feet. We drove over to offer what we could in the way of moral support and material help, taking a roundabout way through fordable streets which were jammed with traffic inching along and taking no chances with wet brakes. Never saw so many ill-mannered horn-honking so-and-so's on the street at one time.

Some kids had boats out on the streets and seemed to be thoroughly enjoying the experience. Some barefooted adults were wading home and obviously not enjoying it.

Public utility and fire department trucks were valiantly trying to make their way through congested traffic and high water to answer emergency calls. Many phones were out of order.

Then the rain stopped, the sun came out and the streets were soon dry. Dejected citizens descended to their basements to take stock of the damage. Paneled recreation rooms were warped, tiled floors heaved, and furniture hopelessly waterlogged. Appliances and heating plants were knocked out and the companies servicing them did a record business for weeks.

Thanks to the splendid efforts of the utility employees, no home was without service for long. And the city garbage trucks made their pick-ups practically on schedule.

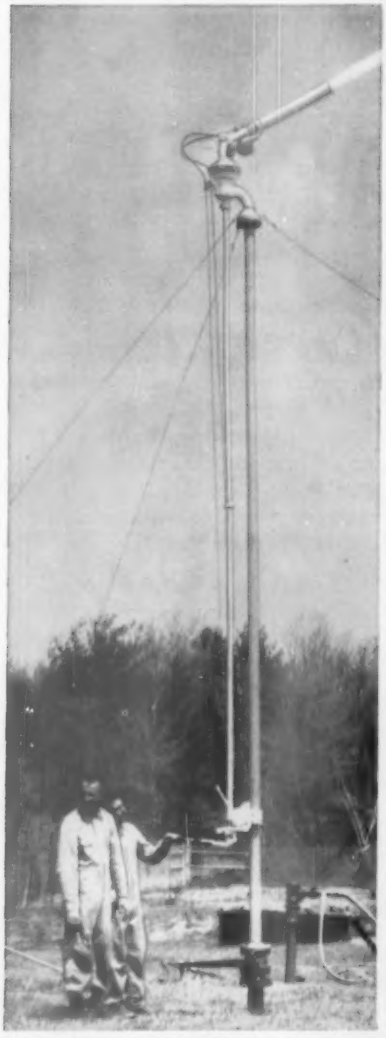
Right now, any bond issue for enlarged sewers would be approved by a record majority.

Carman Fisk

Fight fires from any angle...

WITH ROCKWOOD SPECIALTY TURRET NOZZLES

Getting The Upper Hand...



Rockwood Extended Manual Control Turrets can be located 10 to 20 feet above a remote control station on the ground. Greater discharge range increases their fire fighting coverage. Higher extensions are engineered for special applications.

On the ground, on trucks, or towering over the flames, Rockwood Turret Nozzles are valuable fire fighting aids for use in refineries and chemical plants.

In fact, Rockwood makes the most complete line of specialty turret nozzles on the market. Every type is designed to fight fire four ways: with solid FOAM stream, FogFOAM, WaterFOG or solid water stream. And all are easily adjustable to meet changing fire conditions.

Throughout the country these Rockwood advancements are proving they can hit fires harder and faster. Find out how well they can protect your own plant. For an illustrated booklet on this complete line, write to Rockwood Sprinkler Company, Portable Fire Protection Department, 466 Harlow St., Worcester 5, Mass.

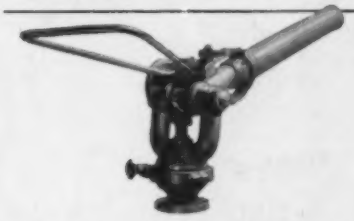
ROCKWOOD SPRINKLER COMPANY

A Division of The Gamewell Company
A Subsidiary of E. W. Bliss Company

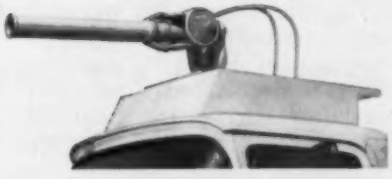
Engineers Water ...to cut fire losses

Distributors in all principal cities

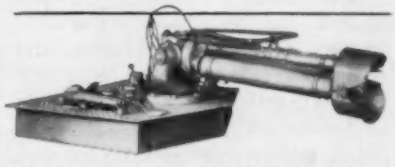
Fighting Fires Four Ways



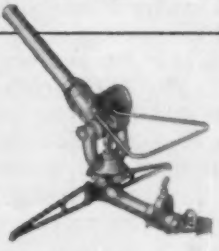
Rockwood Direct Manual Control Turrets give fire fighters "on deck" control from their cab roofs.



A Remote Manual Control Turret is easily handled by a man in the driver's seat. Ideal for fast action.

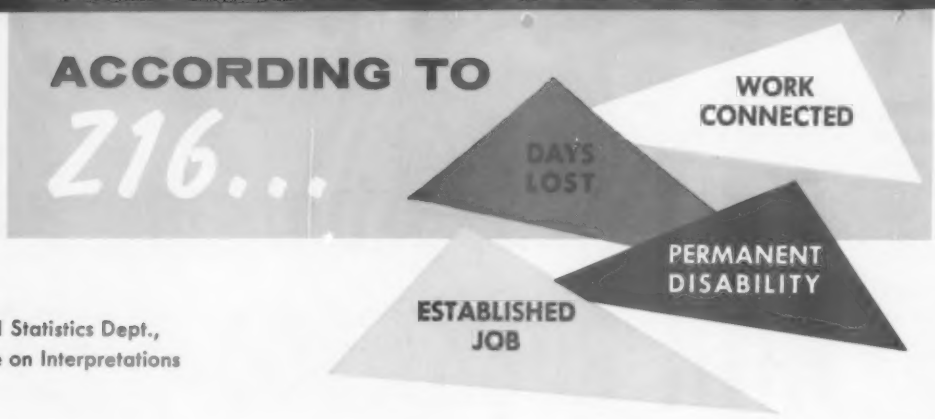


The Remote Hydraulic Control Type, single or dual model, is power controlled from within the cab. Widely used on crash rescue trucks.



The Portable Type goes off the truck and into action in seconds – wherever hose lines can be brought into action.

CIRCLE 10 ON READER CARD



By H. GENE MILLER

Manager, NSC Research and Statistics Dept., and member, Z16 Committee on Interpretations

"Trick" Knee Injuries

TRICK knees, shoulders, and other unstable anatomic joints have plagued safety people for many years (as well as employees with such disabilities). Sometimes these physical weaknesses occur so frequently that both management and employees take special precautions regarding them, such as providing light work assignments and constant attention. In other instances, recurrence may be so infrequent that precautionary steps are forgotten after a while.

When recurrences are spaced far apart, undoubtedly a tendency develops to disregard the condition. But recurrences bring hurried appeals from safety people to the Committee on Interpretations requesting a ruling to disregard the case since there was nothing that could have been done to prevent the recurrence.

The Standard does not cover this disability specifically (except by examples in the appendix), but it is covered in general terms in Section 5.4, "Disability Arising Solely Out of Physical Deficiency," which states: "If an accident or incident such as a slip, trip, or fall arises solely out of a pre-existing physical deficiency, and if a worker without such physical deficiency would not have such an accident or incident, any resulting injury shall not be considered a work injury. However, an injury which arises out of and in the course of employment shall be considered a work injury even though the employee had a pre-existing physical deficiency."

Interpreted in terms of trick knees, this section implies that a recurrence without any work-connected aggravation would not be included in the company's injury experience. On the other hand, if the employee slipped, fell, twisted his knee, or otherwise had a work-induced recurrence, the disability would be charged.

In the appendix of the Standard, this principle is explained by examples 4 and 5 under A5.4 which states if a worker with a trick knee suffered a recurrence of this condition while walking up stairs, the injury would be considered as having arisen solely out of the pre-existing physical deficiency and would not be considered a work injury. On the other hand, if the condition recurred when the worker slipped while walking, the injury would not be considered as having arisen solely out of the pre-existing physical deficiency, and it would be considered a work injury.

The following cases include one which was not considered reportable and two which were.

Case Histories

Case 825. A worker with a wrenched knee had pain recur from time to time. On the occasion in question, he had stopped work and was waiting for the lunch wagon which was coming through the plant. While standing and waiting, pain developed in the injured knee. He reported the incident to his foreman who advised him to return to the doctor who had treated him originally. The doctor prescribed surgery to correct the condition.

Decision: The committee ruled that the recurring disability should not be considered a work injury since no work-connected act caused pain to develop.

Case 861. A meter reader had a trick knee which locked in an angular position when he knelt on a pile of shrubbery cuttings to read an inside meter through a ground level basement window. Manipulation failed to correct the condition and a surgical repair was performed.

Decision: The committee ruled that this injury should be included in the company's injury rate since the recurrence did not arise solely from the physical deficiency. The act of kneeling on a pile of shrubbery cuttings put this case in the category of arising out of and in the course of employment.

Case 787. After working in a squatting position, an employee felt a sharp pain in his knee when he straightened up. He thought little of it since this had happened many times during the past two or three years, and each time the pain passed in 10 or 15 minutes. On the occasion in question, though, the pain did not pass, and in fact, the knee locked while he was returning to his work headquarters. Surgery to correct the condition was recommended with three to five weeks disability indicated.

Decision: The committee ruled that this injury should be included in the work injury rates since recurrence of the disability arose out of a specific incident related to the employee's work.

A NEW ADVANCE IN DURABLE FLAME RETARDANT WORK CLOTHES

It takes the optimum combination of fiber, fabric, and finish to make the best possible fire retardant work clothing . . . and this combination has been achieved in a new *Mount Vernon Safety Fabric.*

The fiber is cotton – the world's most comfortable fiber: cool, absorbent . . . with no static electricity and no melting at high temperatures.

The cloth is a MOUNT VERNON fabric specifically developed for this use. It is designed for high strength, resistance to tearing and abrasion, and maximum air porosity . . . and to retain these properties throughout the life of the garment.

The finish is Lynrus FR-1*. It chemically combines with the fiber and the cloth to produce *Mount Vernon Safety Fabric.*

Mount Vernon
SAFETY
FABRIC

LYNRUS F.R.1*
Durable Flame Retardant Finish

It provides durable flame resistance that will last for the life of the fabric whether it is laundered or drycleaned. *Mount Vernon Safety Fabric* will not support flame. Afterglow in charred areas is negligible.

Mount Vernon Safety Fabric is mildew resistant, wrinkle resistant, and has bacteriostatic properties which tend to inhibit perspiration odor development. It is non-allergenic, non-irritating, and non-toxic. Because the fabric is soft and flexible, without a trace of stiffness or harshness, it can be styled into smart, comfortable work clothes.

These claims are supported by scientific tests; use the coupon to write for your copy of "Technical Facts About *Mount Vernon Safety Fabric.*"

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A LEADER IN INDUSTRIAL TEXTILES

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I am interested in knowing more about MOUNT VERNON SAFETY FABRIC. Please send me:

☐ a copy of "Technical Facts About MOUNT VERNON SAFETY FABRIC."

☐ a swatch of MOUNT VERNON SAFETY FABRIC, so I can test it myself.

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Company_____

Address_____

City_____ Zone____ State_____

CIRCLE 11 ON READER CARD

Mine Safety Campaign Ready for Blastoff

1962 campaign to prevent falls of ground gets under way January 1. Colorful program materials are available

A 50 PER CENT or greater reduction in the frequency rate of injuries from falls of ground in the mining industry is the goal of a worldwide campaign beginning Jan. 1, 1962.

The Falls of Ground in Mines Campaign, conducted by the National Safety Council, will be conducted for a year, ending Dec. 31, 1962.

Reduction of the frequency rate of falls of ground presents a challenge to large and small mines alike.

The campaign is sponsored by the Council's Mining Section under the direction of an advisory committee composed of Al Kolu, Pickands Mather & Co. (chairman); Edward C. Leonard, Inland Steel Co.; and John A. Cooke, Falconbridge Nickel Mines, Ltd. Endorsing and cooperating in the campaign are federal, state, and provincial mining departments, mining associations, mining publications, insurance carriers, and others.

Underground mines throughout the world, excluding coal, are invited to participate in the campaign. Membership in the NSC Mining Section is not required.

The Council has produced various materials to assist participants in carrying on a continuous and effective campaign during the year. These materials are available to enrollees at a nominal cost:

Posters – An announcement poster, a scoreboard poster, and a special set of 12 posters in two colors, one for each month of the year, emphasizing an important safe practice for avoiding injury from falls of ground.

Facts about falls of ground – A series of 12 information sheets, one for each month of the campaign, will be made available. These sheets cover facts about falls of ground, detecting loose, and the importance of observing the safe standard bolting or timbering plan.

Falls of ground safety tips – A set of four booklets on various subjects each illustrating safe practices that prevent falls of ground.

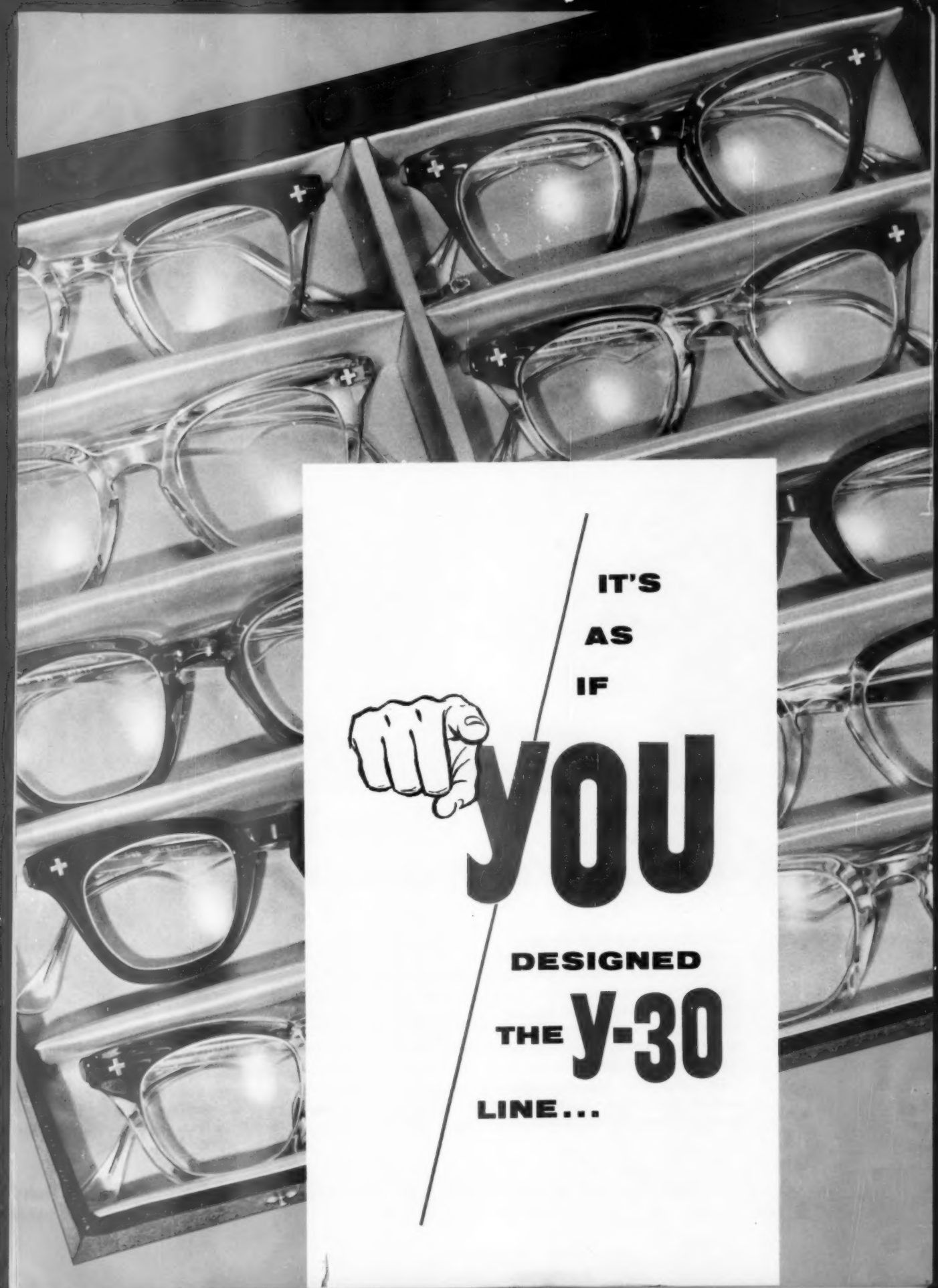
Reflecting safety signs – Reflecting safety signs for mounting at strategic points underground. These come in sets of four made up in two colors.

Hard hat stickers – Reflective stickers for hard hats, with the Green Cross for Safety on an off-white background and the phrase, "Prevent Falls of Ground." These are to be distributed to all underground employees of mines enrolled in the campaign.

Companies operating two or more mines are asked to enroll each mine in the campaign separately. All enrollees are required to submit a simple report of injuries resulting from falls of ground for 1961; a report at the end of the first six months of the campaign; and a report covering the last six months.

The Council will make awards to mines and supervisors in recognition of achieving the campaign goal and the other campaign requirements.

Shown on this page are some of the program materials available in the falls of ground campaign. At the top of the page is the reflective hard hat sticker. At the left is one of the monthly posters. (Actual posters are 8½ x 11 inches.) Below is a miniature version of the reflective safety signs that can be readily mounted at strategic points underground.


IT'S
AS
IF
you
DESIGNED
THE y-30
LINE...

Flesh Smoke Brown/Cryst

NEW B&L SAFETY GLASSES COMBINE

Truly smart appearance • With safety glasses, good looks paves the way to worker acceptance. In the Y-30 line, Bausch & Lomb hits a new stride. Here's smart styling to make workers want to wear their glasses on the job. In solid color and modern two-tone fronts, with temples in acetate or brilliant eye-catching aluminum—appealing to men and women both.

New strength • These frames are cut from sheet acetate stock—not molded—giving them 21% more hardness, 38% more tensile strength than molded frames. A significant improvement in eye-wire grooving adds 135% more lens retention. Bal-SAFE lenses give the maximum eye protection, with an average of 10 times the impact resistance required by the U. S. Government Bureau of Standards. As to temple hinge, there is none stronger on the market!

Built-in comfort • Bausch & Lomb experience in ophthalmic eyewear assures wearer comfort: keyhole bridge for pressure-free nasal fit; rigid or adjustable nose pads to meet every facial contour

SEE THE EXCLUSIV

Smoke/Crystal

Brown

ALL THE FEATURES YOU WANT MOST

problem; S-7 lens shape for unobstructed wide vision; patented Nylok temple screws banish loose, wobbly fit; new, flat wire core acetate spatula temples give you flexibility where you want it; complete range of eye sizes and bridges; choice of spatula or cable temples.

Sure economy • The Y-30 line assures safety eyewear economy, lets you maintain smaller inventories. You can control interchange of fronts and temples (1) throughout the entire Y-30 line, (2) with all other current B&L acetate safety frames, and (3) even with several other makes of frames! Nylok temple screws are re-usable, eliminate waste; they give you your own quick and easy control of interchangeability without resort to special tools or fussy assembly methods. Temples are automatically universal in application: you never need to stock temples to match fronts because all temples are of "neutral" color—crystal or flesh acetate, or polished aluminum. Finally, with all this intrinsic economy you pay no premium in price for Y-30 product.

OMBINATION OF PROTECTION-PLUS FEATURES IN THE Y-30 LINE...

BAUSCH & LOMB

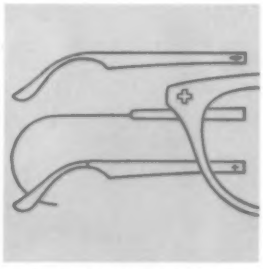
Y-30 ...THE SAFETY GLASSES

YOU MIGHT HAVE DESIGNED

Mitre joint temples for easy fitting. No stronger hinge on the market.

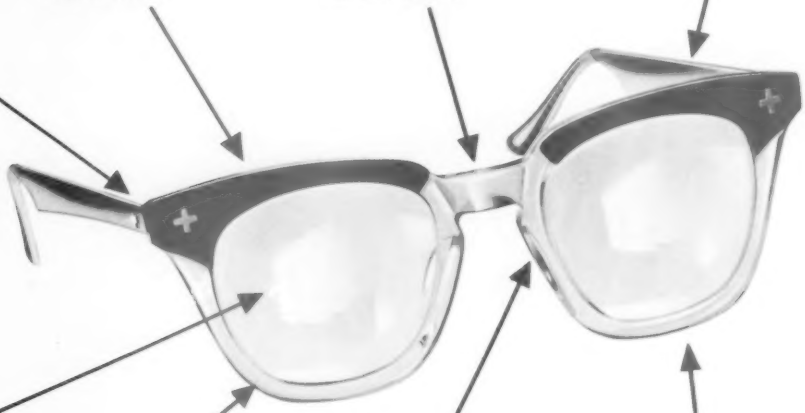
Front is cut from sturdy sheet acetate, stronger than molded material.

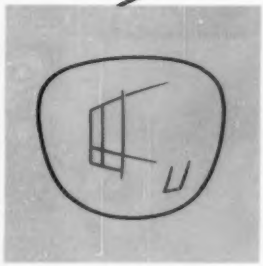
Keyhole bridge for comfortable, pressure-free nasal fit. Full range of sizes.



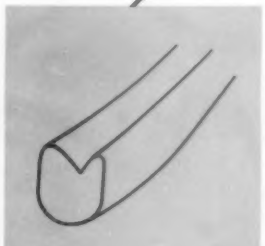
Crystal, flesh and aluminum temples, easily interchanged.

Re-usable Nylok temple screws insure temples always fitting snugly.





Bal-SAFE lens is toughest on the market. Clear or Ray-Ban shades 1, 2, 3. Or in clear Enduron hard resin.



Deeper, off-center buttressed eyewire groove, ups lens retention 135%.

Comfort assured by broad rigid or adjustable nose pads.

S-7 lens shape for smart good looks, unobstructed vision, extra safety.

Complete interchangeability fronts, temples, lenses screws; sure economy.

Wherever you are there's a Y-30 supplier near you.
For complete specifications, samples, prices, phone your nearest supplier of B&L Safety Products, or write: Bausch & Lomb,
90324 Lomb Park, Rochester 2, N. Y.

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Protection-PLUS Safety Products

protection + economy + worker acceptance

A-504,116197

Litho in U.S.

Does Washington Mean Business?

Developments during 1961 indicate an increase in governmental pressure on accident prevention problems. Both means and ends for safety are at issue

By HARRY N. ROSENFIELD
General Counsel,
National Safety Council

OBSERVERS IN Washington this year have witnessed the simultaneous consideration of two different governmental approaches toward achieving safety in industry. The first involves the safety and health regulation issued by the U.S. Department of Labor, effective earlier this year, for federal supply contracts under the Walsh-Healey Public Contracts Act. This new regulation promulgated "a single standard of safety and health conditions" applicable in all states and to all employers alike. It is very minute and directive in its detailed regulation of a wide variety of selected items such as: buildings and appurtenances; stairways or steps; guarding of floor openings and platforms; aisles and passageways; material storage; outdoor storage; flammable liquids; paints and painting; fire prevention; pressure vessels; tools and equipment; ventilation and protection in welding and cutting; electrical equipment; mechanical power transmission apparatus and guard standards; machine guarding; woodworking machinery; housekeeping; toilet facilities and wash rooms; lunchrooms and food vending; drinking water; medical services; eye protection; environmental conditions; ventilation; noise; and personal protective equipment. I have deliberately gone into such detail on this regulation in order that you may see just how specific this federal safety regulation is on what must, or must not, be done or provided.

On the other hand, compare the Federal Aviation Agency's proposed new approach on maintenance standards for all civil aircraft. At present, the *Civil Aeronautics Manual* – like the Labor Department's regulation just discussed – contains detailed technical maintenance guidance material. FAA's new plan would establish minimum maintenance standards governing the end product of maintenance instead of prescribing detailed methods, techniques and procedures for accomplishing it. The difference is between prescribing detailed methods or the "minimum quality."

A specific example of how this new approach would work is a recent FAA proposal to change its requirements for the overhaul of aircraft engines. Current FAA regulations prescribe, for example, a fixed overhaul time for engines, at 1000 hours for engines not previously used in air carrier service, with a representative number of engines being required to undergo complete disassembly and inspection at 800 hours. The present rule applies uniformly to all carriers with only relatively limited variability in terms of individual carrier experience. However, under FAA's proposed new rule, each individual air-carrier's own attainment in actual in-flight engine airworthiness would become the criterion for setting the overhaul time limitations for that carrier. The proposed rule would express performance levels in terms of the number of adjusted engine failures actually experienced during flight by each carrier per 1000 engine hours flown on a particular type of aircraft. As FAA itself sees its proposed new approach, it would provide that "in-flight safety, as the final quality product of the air carriers, should be the predominant factor governing overhaul time limitations."

Thus, in these two new administrative regulations we see two different philosophies of federal safety regulation: one would regulate the *means* of achieving safety, the other would prescribe the *end result* in terms of safety performance to be achieved. One is largely before the fact in its essential approach, the other is largely after the fact. One stresses a uniformly applicable rule, the other encourages individual variations geared to successful safety accomplishments. I do not know the ultimate significance of FAA's pro-

– *To page 73*

Adapted from remarks made before the Annual Meeting of Managers of State and Local Safety Councils, Chicago, October 14, 1961.

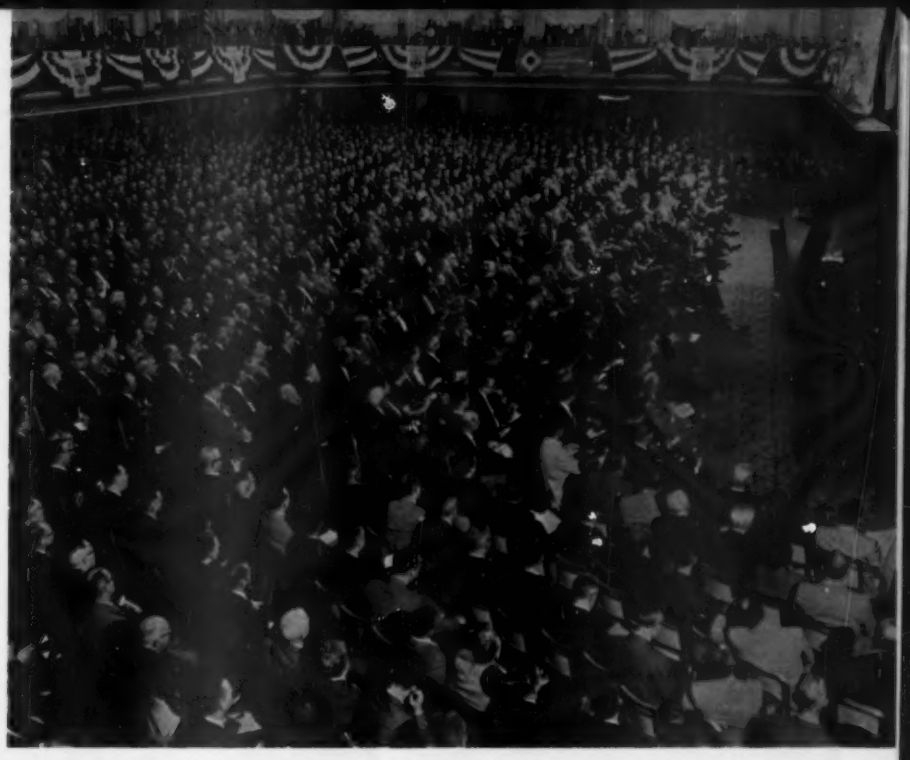
Phalanx of safety men head for Pick-Congress Hotel following early morning sessions.

Safety men EVERYWHERE ...All the Time at the 1961 National Safety Congress

After a busy day of safety talk, tired delegates head back to hotels and some rest.

Safety men pack the early morning sessions

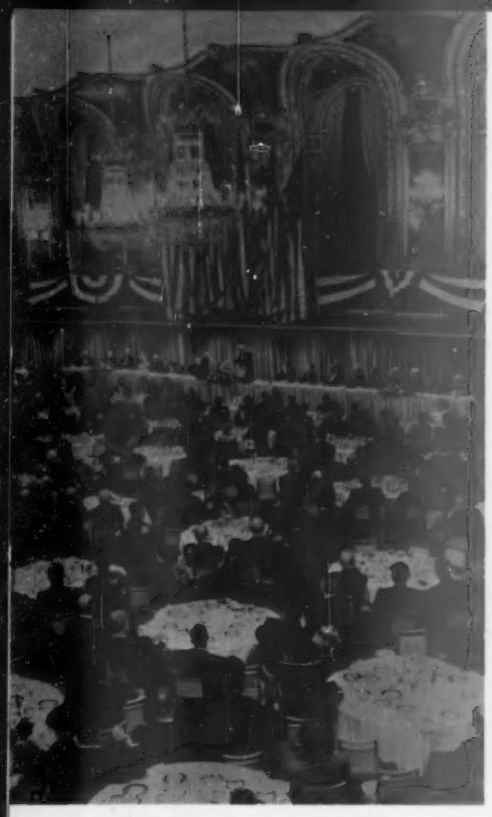
Standing room only sign goes up early at the Grand Ballroom of the Conrad Hilton as Bill Gove holds forth at the Early Morning Sessions. Many delegates nabbed choice seats before 8 a.m. Mr. Gove's bell-ringing subject: time management and techniques.



They jam the exposition

This view of the Normandie Lounge of the Hilton Hotel shows but one small part of the exposition at the 49th annual Safety Congress. Huge crowds swarmed through the hotel's two large exposition halls, presenting many scenes similar to this one. Many new items of safety equipment, which had been kept under wraps, were unveiled at the big 1961 safety exposition.

– Turn page



Industrial Conference—

starts early . . . works late

At Annual Banquet

NSC's Chairman Lowe

William H. Lowe, chairman of the Council's board of directors and treasurer of the Inland Steel Co., speaks at annual banquet.

NSC's President Pyle

Howard Pyle, Council president, presents the "Flame of Life" award to safest state, Connecticut, and safest city, Sioux Falls, S.D.

GM's President Gordon

John F. Gordon, president of General Motors, and featured speaker at the banquet, discusses "Safeguarding Safety Progress."

They have their say . . . and listen attentively to others

NSC exhibit features pennants from current Council campaigns

Congress features colorful exhibits . . . action-packed demonstrations

H. F. Browne of the Bureau of Mines' team of Kintz and Browne, shows delegates the ever-popular static electricity demonstration.

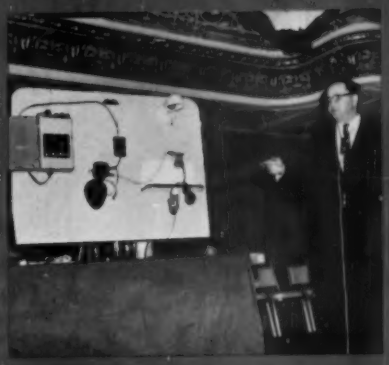
Frank Burrows pulls "rabbit" out of coat as part of his sleight of hand presentation at Public Utilities session and other meetings.

William Fehr and Harold Levin of Crouse Hinds show features of explosionproof equipment for use with hazardous gas and dust.

A. E. Carter, fire marshall at Du Pont's Kinston plant, is almost lost in smoke as he demonstrates chemistry of fire at Congress.

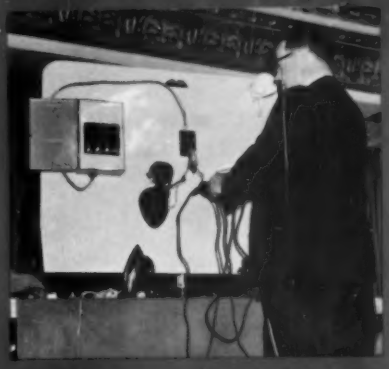
Low voltage demonstration

H. C. Potthast, Wisconsin rural electric job training and safety specialist, shows new method of demonstrating low voltage hazards.



He shows the setup . . .

Factory fixture causes light to glow . . .



Octopus of wires results in overload . . .

. . . And whole system goes up in smoke.

Product Talk at Exposition

Buyers see survival car . . . try new devices . . . check hard hats

Outside Hilton Hotel, delegates found the Liberty Mutual Survival Car II and a mobile classroom equipped with D2 Drivotrainers.

Frank Bird, supervisor of safety and plant protection at Lukens Steel, pauses at exposition to try hand on new resuscitation dummy.

Thomas T. Pinder, safety engineer, Kennecott Copper Corp., (right) examines new hard hat as Ed Bullard Jr. points out features.

Something for Everyone

Youth Distaff the Men

Demonstrations were popular with the youth at the Congress. Here two young rural ladies show visitors mouth-to-mouth resuscitation.

Shell Oil's Carol Lane (2nd from left) with award winners Mrs. Rosella T. Humes, Mrs. John Coleman and Mrs. David Ruetenik.

Plaque honoring U.S. Army Engineers' Merrill Ely is accepted by O. J. Moreland from Construction Section's Bob Moore. Section also honored NSC's first executive director, W. J. Cameron, shown in charcoal drawing below.

PERSONALS

News of people in safety and related activities

MCA Committee Chairman Named

THOMAS W. NALE, M.D., medical director of Union Carbide Corp., has been named chairman of the Medical Advisory Committee, Manufacturing Chemists' Association, Inc. He succeeds DR. R. EMMET KELLY, medical director, Monsanto Chemical Co.

Formerly a director of the West Virginia State Health Department, Dr. Nale joined Union Carbide in 1941 and was transferred to the industrial medicine and toxicology department in 1946.

An associate clinical professor of industrial medicine, New York University Post-Graduate Medical School, Dr. Nale holds membership in the American Medical Association; New York State Medical Association; Southern Medical Association; American Academy of Occupational Medicine, American Industrial Hygiene Association (Fellow); and the American Association for the Advancement of Science.

Dr. Nale is a member of the Labels and Precautionary Information Committee of MCA; the Medical Advisory Group, Employee Health and Benefits Committee, National Association of Manufacturers; and the Medical Advisory Committee, American Welding Society.

Wilkins To Head NSC Labor Department

Wilkins

Grieve

ROBERT M. WILKINS has been appointed director of the National Safety Council's Labor Department, effective February 1, 1962. He succeeds G. G. GRIEVE, who retires after 33 years with the Council. Grieve has held the post since September 1957.

Wilkins is presently a staff representative for the Council's industrial department in the Aerospace and the Air Transport sections.

He also is secretary for the Mechanical Safeguarding committee of the Industrial Conference, and secretary for the American Standards Association committee on "Accident Prevention Tags." He has been a member of the Aircraft Maintenance and Servicing committee for the National Fire Protection association since 1958.

Prior to joining the Council in 1958, he served his apprenticeship as a tool and die maker, beginning in 1941. He was elected union steward of the International Union of Electrical, Radio, and Machine Workers in 1944. Later he served the International Harvester Company as a process engineer until 1955 when he joined Ford Motor Company as an industrial safety engineer.

He studied business law and speech at Wilson Junior College in Chicago, and attended the Illinois Institute of Technology, where he studied fire protection engineering.

Grieve came to the Council in 1929 as staff representative for the Mining, Coal Mining, and Cement, Quarry and Mineral Aggregates sections. A graduate of the University of Wisconsin engineering college, he had previously worked in the construction, steel, chemical, and mining industries.

New Manager For ASA

ROGER E. GAY, former president of the Bristol Brass Corp., will succeed Vice Admiral GEORGE E. HUSSEY JR., USN (Ret.), as managing director of the American Standards Association effective January, 1962.

Gay is leaving his management consultant practice to become the third managing director of the 43-year-old voluntary national standards body. President of ASA from 1952-1954 and a member of its board of directors for nine years, he is also a fellow of the Standards Engineers Society and received in 1957 the annual award of SES and the American Society for Testing and Materials.

Closely associated with standardization on both industry and governmental levels, Gay served two years as the director of cataloging, standardization, and inspection for the Department of Defense in Washington. Under his responsibility, a single identification and cataloging system was established for use by the armed forces.

At the ASA's 8th National Conference on Standards in 1957, Gay received the Howard Coonley Medal for spearheading "efforts of the federal government to develop more effective standardization practices and to coordinate government standards with those of industry."

While with the Defense Department, Gay administered the new DOD standardization program which did so much to reduce the number and variety of items in the supply system.

Retiring in 1962, Admiral Hussey has been managing director and secretary of the ASA since 1948. A graduate of the U.S. Naval Academy, he served as chief of the Navy's Bureau of Ordnance during and after World War II. He has been ac-

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HANDLING ELECTRICITY -no kid-glove job

By ALFRED L. DOWDEN
Electrical engineer,
Liberty Mutual Insurance Co.

Rubber gloves and leather gauntlets, essential hot-line equipment, should get regular attention to detect wear and defects.

Another part of employee's job is frequent inspection of line hose and insulator hoods. His life may well depend on them.

WHEN a plant's electric devices are up to date and the employees have all the specialized personal protective equipment they need, what remains? What more can the safety man do?

He must never cease to survey electrical hazards. He must untiringly teach proper work practices. He must keep new workers and experienced workers aware of electricity's lethal properties.

A knowledge of electrical phenomena is helpful and, in fact, is essential to these tasks.

Today, practically all public utilities provide alternating current to their industrial customers because of the efficiency of the modern transformer which simplifies production of distribution and utilization voltages with resulting operation economies.

Transmission voltages are still higher. There are several factors which govern the selection of the most economical voltage for transmission purposes. Since power transmission equals the voltage multiplied by the amperage, it is clear that with higher voltage, less amperage is required for the same amount of power. Low amperage means low resistance loss, but as the current increases, more insulation is required and other problems arise. In practice, industrial transmission voltages seldom run above 13,200 volts.

Utilization voltages are preferably low. Line voltages of 120 and 240 are most common although some machines and equipment operate more economically when powered by a 480 volt source or higher. Low utilization voltages permit the construction of apparatus that is both compact and simple. Higher voltages require heavier insulation and, at the same time, hazards to the user are materially increased.

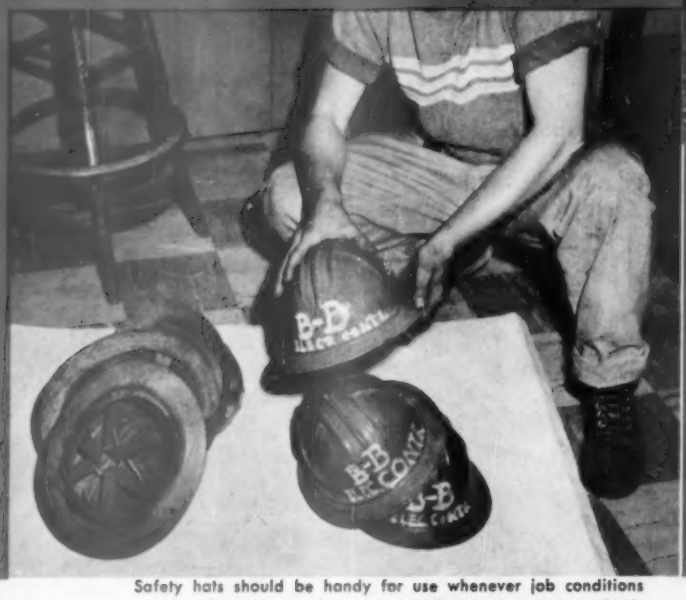
Distribution voltages are somewhat higher. Most common is 2,300 volts. These distribution voltages are, for the most part, utilized for those short distances between the utility's substation and the consumer's premises.

Safe Equipment Is Available

Safe electric equipment is readily available to the industrial plant. What is really needed is a recognition

The tools are vast improvements over those formerly available, but require the same careful inspection and maintenance.

Rubber blankets and sleeves, like all personal protective equipment, are only as trustworthy as the inspection and maintenance they receive. (Photos courtesy B-B Electrical Contractors, Inc., Paterson, N.J.)



Safety hats should be handy for use whenever job conditions warrant. Protective surface and headband are spots to check.

integral portion of the electric equipment. Therefore, a great deal of exposure that existed in equipment that was manufactured and installed many years ago can now be eliminated.

There is little that we know about electric shock accidents that was not recognized 10 or even 25 years ago. The accident experience of the past several decades has simply confirmed the basic understanding that was assembled and recognized at that time. The problem of electric shock is a continuing one because there is a constant number of people accidentally electrocuted each year. Then too, there are more people coming into industry and thus being exposed to electrical hazards every year. Therefore, the problem of prevention and dissemination of known facts is a continuing one.

of the fact that electric equipment, like everything else, wears out, requires maintenance, and that certain seemingly insignificant physical changes in the equipment may really constitute severe electrical exposures.

The solution of the problem of electric shock accidents does not lie in the design or invention of new equipment but rather in the recognition of the hazard, and in utilization of already available equipment which is kept in good condition through a program of proper maintenance procedures.

There are certain new developments that incorporate a greater amount of safety into electrical practices. One of these is the continuing trend toward "dead front" equipment which is designed and delivered to the customer with a complete cubicle that is at ground potential when the installation is completed. These cubicles are particularly common in switchgear. To a greater numerical extent they are more commonly encountered by the average workman in the form of disconnecting type switches. This design encloses the live parts as an

During the past decade there has been a tremendous increase in the use of electricity by the average industrial plant. This has in turn increased the potential exposures to accidental electric shock. On the other hand, the competition among manufacturers of electrical apparatus has influenced them to make good equipment within the reach of the average industrial customer. Therefore, there is much less temptation on the part of a purchasing agent to buy poor capital goods (from a safety standpoint) than would have been the case 10 years ago.

Another factor that has served to reduce the hazard of shock is the general availability of a great many electric devices which, 20 years ago, were custom made. For example, it is now possible to purchase a good ex-

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Fire Tips for The Safety Man

By MARSHALL E. PETERSEN

Marshall E. Petersen is the consultant fire protection engineer for the National Safety Council's Industrial Department. He has a B.S. degree in safety and fire protection engineering from Illinois Institute of Technology. Petersen is a member of the American Society of Safety Engineers and the Greater Chicago Safety Council. Before joining the NSC staff, he was supervisor of safety and fire protection, Allied Chemical Corp.; industrial hygienist, Illinois Department of Labor; and safety engineer, Argonne National Laboratory.

Research Results Displayed at Congress

AMONG ITEMS introduced at the October National Safety Congress were these of particular significance to fire safety programs: (1) a new dry chemical fire fighting agent, potassium bicarbonate, commonly called "Purple-K," which appears to be up to twice as effective on gasoline and oil fires as any other known extinguishing agent; (2) a unit which simultaneously supplies fire entry suits with cooled breathing air and air conditioning; and (3) a new gaseous extinguishing agent, monobromotrifluoromethane, which has recived UL ratings equivalent to sodium bicarbonate-base dry chemical, but which leaves no residue.

Purple K

Potassium bicarbonate, or "Purple-K," was originally developed by the Naval Research Laboratory and is similar in consistency to common sodium bicarbonate dry chemical.

Tests by Ansul Chemical Co., which has submitted a cartridge-operated extinguisher utilizing the compound to Underwriters' Laboratories for testing and listing, indicate the chemical has an effectiveness on gasoline and oil fires about twice that of sodium bicarbonate.

The tests indicated these differences in performance between "Purple-K" and ordinary sodium bicarbonate dry chemical: fire-fighting effectiveness substantially increased; operator technique not as critical for successful extinguishment with Purple-K because it does not allow fuel to reflash as easily or rapidly as may be the case with sodium bicarbonate; use of Purple-K does not result in the momentary flare-up typical of sodium bicarbonate, allowing the fire fighter to approach fires more easily; and the new compound extinguishes the leading edges of contained flammable liquid fires easier than sodium bicarbonate.

Under test conditions, the firm's experienced operators consistently extinguished 50 square feet of gasoline fire with an extinguisher containing 4½ pounds of "Purple-K" and 75 square feet of gasoline fire with an extinguisher containing nine pounds of "Purple-K." Comparative models of sodium bicarbonate dry chemical extinguishers which contain slightly more agent would put out only 25 and 60 square feet.

Among new fire combat equipment at the 1961 National Safety Exposition: The Freon 1301 hand portable fire extinguisher.

Air Conditioning

A self-contained unit, made by Fyrepel Products, Inc., to provide breathing and cooling air for sealed fire entry clothing, utilizes liquid air carried in an insulated tank.

The liquid air is converted to a gas by means of a heat exchanger which absorbs heat from secondary air circulated within the suit by an ejector pump operated off the primary air source. Dry air at 60 to 65 F is exhausted from the ventilation tubes at a rate of 10 cubic feet per minute. An incorporated device warns the wearer when only 10 minutes' air remains.

One model of the self-contained breathing and air conditioning unit weighs about 23 pounds, is worn in a back pack, and can be used in conjunction with fire and furnace entry suits, proximity, and chemical handling suits. Hand-carried and shorter duration units also available.

Freon 1301

The gaseous compound monobromotrifluoromethane, commonly referred to as Freon 1301, is a halogenated hydrocarbon, but is less toxic than carbon tetrachloride or chlorobromomethane.

A 2¾-pound extinguisher incorporating the agent, introduced by General Fire Extinguisher Corp., has been listed by Underwriters' Laboratories at 4 B:C, and is also recognized by the U.S. Coast Guard. This rating is equivalent, pound for pound, to that given to sodium bicarbonate base dry chemical, and about twice the rating listed for carbon dioxide extinguishers.

Extinguishers containing Freon 1301 will be particularly useful on electrical fires, especially those involving delicate electronic equipment which might be harmed by dry chemical residue.

Cost of the extinguishing agent is about 20 times that of sodium bicarbonate base dry chemical.

THE SAFETY LIBRARY

Reviews of books, pamphlets and periodical articles of interest to safety men

By LOIS ZEARING, Librarian, NSC

Research-based Book Deals With Industrial Psychology

Industrial Psychology by B. von Haller Gilmer. 1961: McGraw-Hill Book Co., 330 W. 42nd St., New York 36. 513 pp. $7.50.

Faced with the problem of covering the broad and complex field of industrial psychology, B. von Haller Gilmer of the Carnegie Institute of Technology divided the field into eight major sections: psychology in industry, the industrial environment, labor problems in industry, problems related to work, influence and social interaction, and the individual in industry.

Fifteen experts in the field contributed sections representing their special competencies. The senior author states that he "worked closely with each contributor in the writing and rewriting of the chapters in order to achieve a unity of style and organization," which was clearly achieved.

The current status of the controversial concept of accident proneness is summarized in this quote, "so far we have not succeeded in defining it, assessing its dimensions and constituent elements, nor evolved a technique for dealing with it in practical terms."

In a discussion of posters, the author states, "posters that convey a general message, particularly in negative terms, do little good. A gruesome picture showing some mutilated part of the body with the caption, "Don't Let This Happen To You," is of little value in preventing accidents. It creates resentment, fear, and sometimes anger. No one wants to get killed or injured, and it is an insult to a workman to imply that he or anyone else is so motivated."

Gilmer's *Industrial Psychology* is a well organized, research-based, up-to-date review in a field of increasing importance. Reading it in full or selecting relevant chapters will provide an excellent introduction to industrial psychology.

MURRAY BLUMENTHAL, Ph.D.
Director, Research Div.
National Safety Council

Symposium Considers Injury-caused Diseases

Disease and Injury. Edited by Leopold Brahdy, M.D. 1961: J. B. Lippincott Co., Philadelphia, Pa. 482 pp. $12.50.

The relationship of an injury to a disease that developed or became evident after the injury has been a subject of controversy. The answer to the question "did the injury cause, precipitate or aggravate a disease?" is of vital importance since nearly every patient is covered by a compensation act, liability laws, disability insurance, or pension benefits. Practicing physicians frequently are required to give an opinion on the causal relationship of an injury to a disease within their field of practice. Although such testimony is not always given in court, it must be sound.

The book, written as a symposium by 25 specialists, gives physicians the medical data to help them obtain sound conclusions on questions of the relations of injuries to disease. It discusses extensively the relationship of injuries to mental disease, diabetes, heart disease, peripheral vascular disease, lung diseases, diseases of the gastrointestinal tract, genitourinary disease, obstetrics and gynecology, neoplasms, nervous system, diseases of the skeletal system, articular and related disorders of the thyroid.

Dr. Leopold Brahdy was formerly physician-in-charge of Occupational Diseases and Injuries, City of New York, and a lecturer in radiology, New York University Medical School. He published with Dr. Samuel Kahn a similar book titled *Trauma and Disease* in 1937.

Although the book was primarily written for physicians, it is also very useful for lawyers since it will assist them in developing knowledge of the subject in question and aid them in understanding and working with physicians.

J. T. SIEDLECKI
Director, Industrial Hygiene Div.
National Safety Council

Case Methods Provide Insights into Others

Case Methods In Human Relations by Pigors and Pigors. 1961: McGraw-Hill, 327 W. 41st St., New York 36. 389 pp. $8.75.

Discussing in detail a variant developed by the authors, of the traditional case method, the text explains how to develop more productive relationships with others. Specifically, from such case studies it appears possible to make progress in thinking and speaking clearly, the art of being a good listener, the art of generalizing without being unrealistic or vague and in developing the capacity to understand and appreciate associates.

The book also discusses the incident process of case analysis. In this method cases are reconstructed orally, without reading and studying case reports. Naturally, the leader is the key to this type of case discussion. Valuable by-products are often produced when a group gets together and tries to understand the opinions of others.

Many features of the case method can be applied to the field of safety. Certainly, in the area of accident analysis there is a definite need for more understanding in social re-

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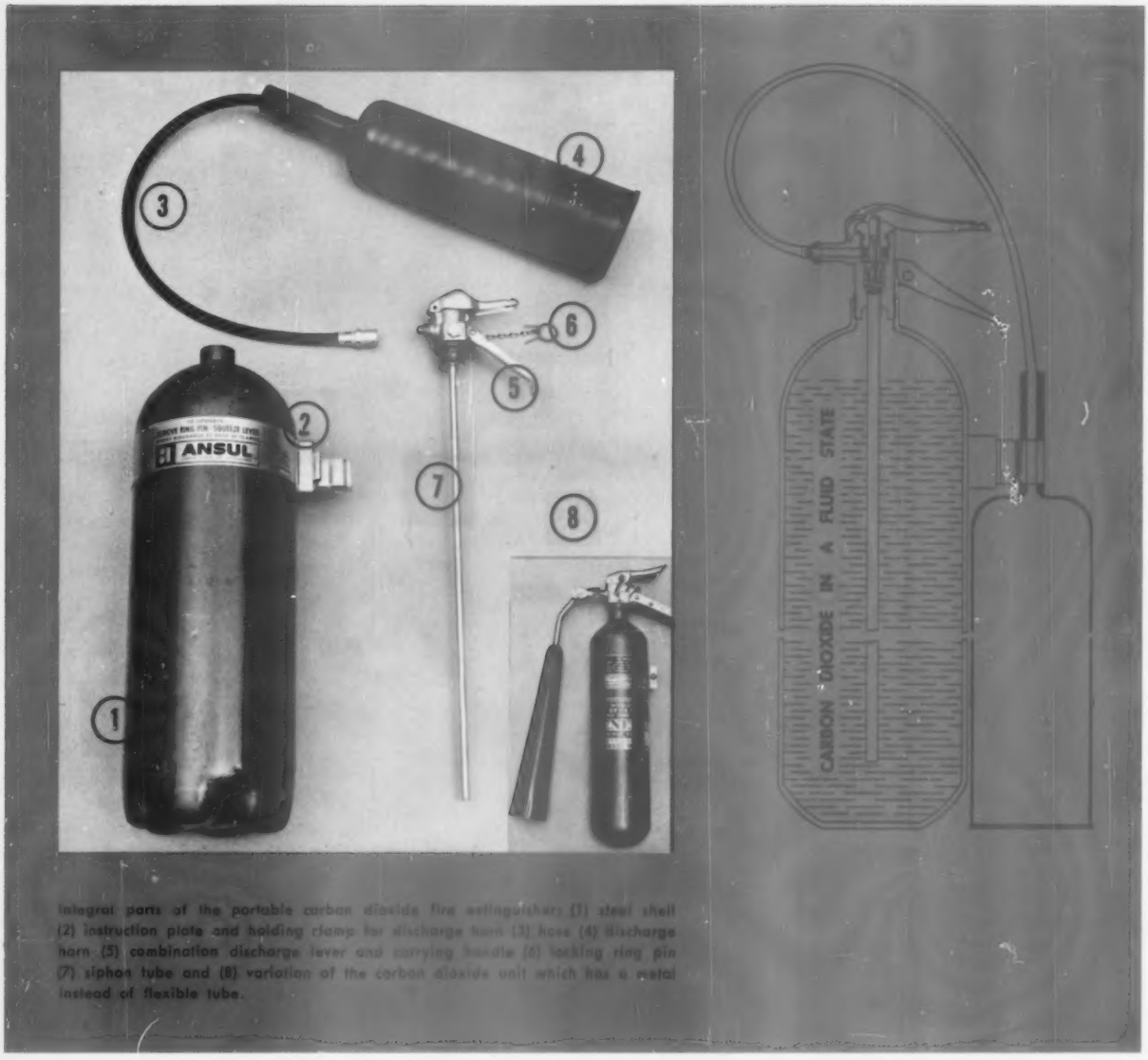


Integral parts of the portable carbon dioxide fire extinguishers: (1) steel shell (2) instruction plate and holding clamp for discharge horn (3) hose (4) discharge horn (5) combination discharge lever and carrying handle (6) locking ring pin (7) siphon tube and (8) variation of the carbon dioxide unit which has a metal instead of flexible tube.

The Carbon Dioxide Extinguisher

HAND PORTABLE carbon dioxide fire extinguishers range in size from 2 to 10 lbs., and have an effective range of 3 to 8 ft. Fully charged, the units weigh from about 9 to 55 lbs.

Since carbon dioxide is discharged primarily in the form of a gas, fire-fighting effectiveness is generally reduced under windy conditions.

The fire extinguishing action of carbon dioxide is due to exclusion or diluting of oxygen, starving the fire. Some cooling effect may result, but this is considered of minor importance.

Important features are intermittent operation, and ease of operation while being carried.

The units are effective on Class B and C fires, and may be used to extinguish small Class A fires or control them until an approved Class A extinguisher can be obtained.

Maintenance is simple: recharging is generally done by an outside agency. (If recharging at the plant site is desirable, the extinguisher manufacturer's representative should be asked for advice and assistance in setting up an approved recharge station.)

The extinguisher should be checked at regular intervals by weighing to determine if recharge is necessary. (The weight of the unit when fully charged is stamped on the body of the valve. If less than 90 per cent of the indicated weight, recharge.) Routine check should also include inspection for visible defects.

Protection against freezing is unnecessary, but installations should not be made in areas where temperature can exceed 120 F.

Hydrostatic testing must be done at least once every 12 years.

When carbon dioxide units are used in confined spaces, the user should be alert to the possibility of being overcome by oxygen deficiency.

Steps to Efficient Handling of CO_2 Unit

1. The unit is removed from its hanger by grasping the handle with right hand and lifting. Left hand can help with heavy units.

2. Extinguisher is carried to fire, right hand holding combination discharge lever and carrying handle. Locking pin is still in place.

3. Set down hose models to extract locking pin. Pull with right hand. (Other models: keep unit in right hand, pull locking pin with left.)

4. For fires in open containers, direct discharge at near edge, not directly into fire. Keep up after fire is out to minimize reflash.

5. On spill fires, direct discharge at near edge of flames, work in slow sweeping motion toward back of burning area. On fires involving electrical equipment, direct discharge into source of flames. De-energize equipment as soon as possible to remove possible source of reignition.

This is the fourth in a series of fire extinguisher fact sheets prepared for NATIONAL SAFETY NEWS by Marshall E. Petersen, National Safety Council fire protection specialist. Other fact sheets appear in the July, August, and September issues.

CAUTIONS ON USE OF CO_2

- Can be used on Class A, B, and C fires, but will control or extinguish only small Class A fires. When used on class A fires (wood, paper, textiles, rubbish, etc.), the CO_2 should be followed up with water to cool deep-burning embers.
- MUST NOT be installed in areas subject to temperatures in excess of 120 F.
- The discharge horn can become extremely cold during operation due to rapid expansion of the compressed gas; don't let it touch the body.
- Carbon dioxide units MUST BE hydrostatically tested at least every 12 years.
- Carbon dioxide discharges in the form of a gas; its extinguishing ability is generally REDUCED in wind.
- In confined areas, the discharge may displace sufficient air to create an oxygen-deficient atmosphere.

for DISTINGUISHED SERVICE

Winners of National Safety Council awards for outstanding records

AWARD OF HONOR

American Viscose Corp., Meadville Plant, Meadville, Pa.

Chrysler Corp., Missile Div., Huntsville Operations, Huntsville, Ala.

Bethlehem Mines Corp., Mine No. 58, Ellsworth Div.

Ford Motor Co. (6): Buffalo Stamping Plant, Metal Stamping Div.; Manufacturing Services; Rawsonville Plant, Hardware Accessories Div.; Sharonville Plant, Transmission Chassis Div.; Steel Div., Marine Services, Dearborn, Mich.; Transmission and Chassis Div., Sterling Plant, Dearborn, Mich.

General Time Corp., Westclox Div., La Salle, Ill.

Illinois Central Railroad, Stores Dept., Chicago.

Magnavox Co., Fort Wayne Area Plants, Fort Wayne, Ind.

Mason & Hanger-Silas Mason Co., Inc., Iowa Ordnance Plant, Burlington, Iowa.

Republic Steel Corp., Cleveland Dist., Cleveland, Ohio.

Sinclair Refining Co., Mfg. Dept., Houston, Tex.

Sperry Rand Corp., Sperry Utah Co., Salt Lake City, Utah.

Thiokol Chemical Corp., Longhorn Div., Marshall, Tex.

United States Army (2): Ordnance Corps, Detroit Ordnance Dist., Detroit, Mich.; Raritan Arsenal, Metuchen, N.J.

United States Rubber Co., Naugatuck Chemical Div., Naugatuck, Conn.

United States Steel Corp. (2) Tennessee Coal & Iron Div., Ensley Steel Works, Fairfield, Ala.; Columbia-Geneva Steel Div., Geneva Works, Provo, Utah.

Western Electric Co., Inc. (2): Telephone Sales Div., Denver Area; Indianapolis Works, Indianapolis, Ind.

Safety precautions like these have earned the government-owned Goodyear Atomic Corp., Portsmouth, Ohio, an Atomic Energy Commission citation for five million consecutive man-hours without a disabling injury. Worker wears protective clothing and mask. Area is covered with flameproof barrier cloth to reduce fire hazard during metallizing of a damaged shaft.

Canadian Safety Group Makes Industry Awards

The Canadian Industrial Safety Association recently presented the following 'No Accident Awards' for the period June 1 to Aug. 31, 1961.

Gold Seal Awards – for one million or more injury free hours of operation; Canadian Arsenals Ltd., St. Paul l'Ermite, Quebec; Dow Chemical of Canada, Ltd., Sarnia, Ontario.

Silver Seal Awards – for completing 365 days or more of injury-free operation: issued to 29 plants throughout Alberta and British Columbia.

The association, under the direction of Norman D. Simmons, P.Eng., is the only organization of its kind in Canada. Recognition of outstanding injury-free operation by any type of industry is the first of many services the organization plans to provide.

Goodyear Atomic Receives AEC Safety Award

Employees at Goodyear Atomic Corp., Portsmouth, Ohio, have been cited by the Atomic Energy Commission for compiling five million man-hours without a single disabling accident in a 15-month period.

In establishing the company-wide record, employees exceeded the previous record of 4,918,000 accident-free man-hours held by Goodyear-Java. In setting the record for gaseous diffusion plants they surpassed their own mark of 4,607,800.

SMALL BUSINESS and ASSOCIATIONS

By HUGH McCAHEY

Small Business Program Director, National Safety Council

Here's the Payoff For Safety Investment

The possibility of actual dollar savings in workmen's compensation insurance premiums through an active, continuing safety program has often been discussed. Evidence of such savings was recently provided by the Institute of Scrap Iron and Steel. One of their members, a Nashville, Tenn. scrap firm, reported that credit ratings on their compensation insurance premiums over a six-year period have run from 22 to 36 per cent below the manual rate—about $1000 per year in savings.

How was this accomplished? The company attributes this tangible success to a continuous safety program in its yard operations: "We have found that good, clean, safe housekeeping has eliminated quite a major portion of our previous safety complications. You must continually demonstrate to your employees the eventual value to all concerned."

The company's plant superintendent is also their safety superintendent. He is responsible for the conduct of the entire safety program, in the plant *and* in their fleet operations. His duties include continuous safety surveys, analysis of work procedures, safety lectures, and cooperation with the insurance company's safety engineer in planning and operating the program.

The program has also paid off in an experience credit of $1500 on the operation of their fleet.

Editor's note: If your own member organizations are not cashing in on such a profit item, it's time they looked into their own safety program. Assistance in developing an association safety program is readily available – just write to Small Business and Associations Div., NSC.

Leading the second annual South Texas Business and Industrial Safety Seminar were, from left, J. O. Musick, J. U. Parker, Herbert J. Ferguson, and David E. Koch.

South Texas Seminar Stresses Programming

One hundred and nineteen South Texas businessmen and industrial plant operators attended the second annual Business and Industrial Safety Seminar held in San Antonio on September 27th. Sponsored by the Texas Safety Association, the meeting was designed to assist businessmen in reducing accident loss and compensation insurance costs through effective safety programming. Topics discussed during the morning session included "Cutting Insurance Costs," "Occupational Health Hazards," "Pre-employment Physical Examinations," "Color Application Safety," and "Value of First Aid in the Safety Program." The afternoon session consisted of panel discussions on "Making the Safety Program Pay," "Industrial Machine Hazards," "Safety in Materials Handling," "Personal Protective Equipment," and "Fire Prevention."

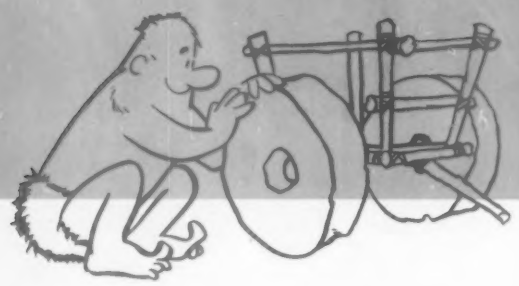
CONGRESS HIGHLIGHTS

Top – Howard Pyle, NSC president, presents an association safety award to Dwight J. Evans, executive director of the Steel Plate Fabricators Association. The association was one of eleven recognized by the Council for achievement in occupational safety.

Center – Ivan LeGore, safety director, Portland Cement Association, discusses safety as an integral part of an association's over-all program of activities.

Bottom – Small Business and Associations Committee discusses plans for program emphasis in 1962. Clockwise from center foreground, John M. Convery, Hugh McCahey, W. M. Allison, J. Neil Moore, Ray Ellis Jr., Dan Adair, Jefferson D. Keith, R. A. Wendell, P. W. Logan, Robert Hagopian.

IDEAS *that worked*



DEVICES and IDEAS to help your safety program

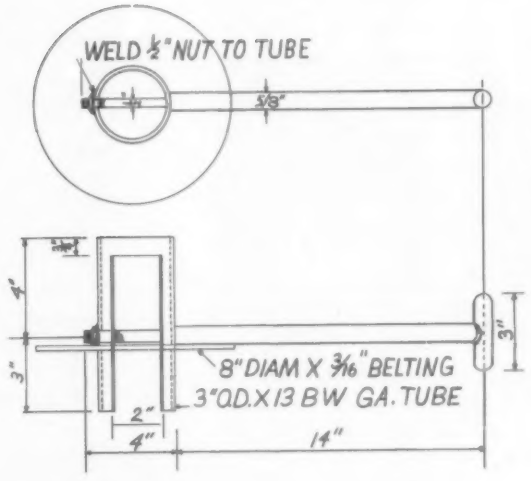
By ARTHUR S. KELLY
Industrial Department, NSC

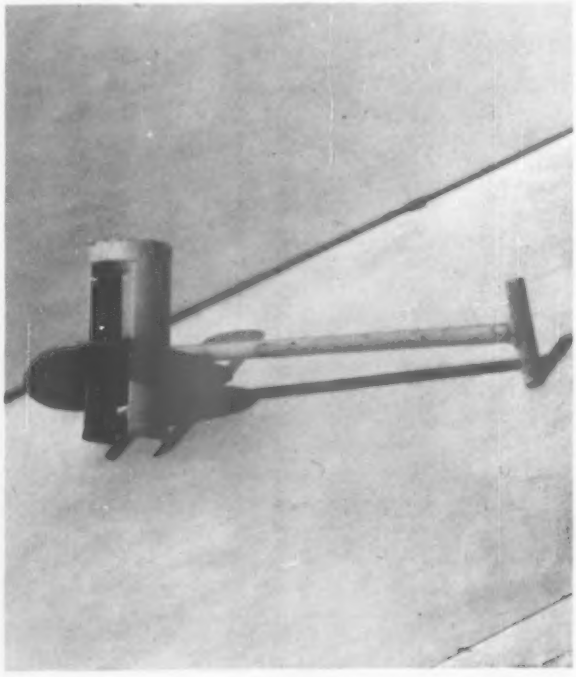
"Thar She Blows," But No Burned Hands

A PROBLEM turned up in the shop of the Bestwall Gypsum Co., Fort Dodge, Iowa, to which no one had been willing to pay much attention until the annoyance became rather serious. The problem was the removal of radiator caps from their water-cooled power systems. The radiators required constant checking to keep the systems from overheating, and the employees had taken to using the "throw a rag over the cap, twist, and duck" system for removing the caps. The result had been a number of irritating steam burns.

Then Harry Miller, the shop foreman, decided it was time to design a gadget that would put an end to the nuisance once and for all. Using scrap stock he put together a very workable radiator cap remover, complete with a splash shield of rubber belting. The length of the handle insures that hands cannot come anywhere near the cap.

Miller had one made for every radiator in the shop and hung them where they would be immediately available. The problem of steam burns from cap removal was shut off once and for all.

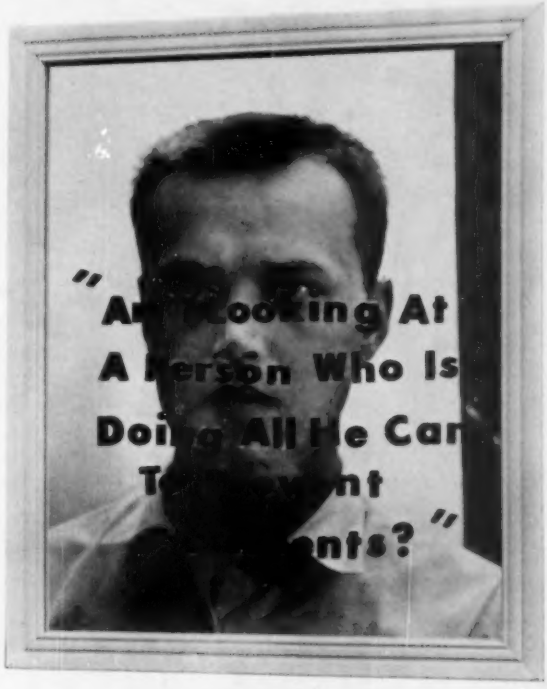




NOVEMBER WINNER

From the November pages of Ideas That Worked, the judges liked best the brown paper bags which P. J. Rogers used to promote attendance at safety meetings. Rogers sent out the bags stamped with the slogan, "It's in the Bag" and bearing his address plus postage. He enclosed a little note which read, "Yes, it's in the bag . . . 100 per cent attendance at our next safety meeting. There's good reason too, because good attendance makes a good safety meeting. Good safety meetings help keep us safety minded. So, bring the bag — nosebag, that is, and come early." Greatly improved attendance resulted for meetings at the Shell Pipeline Corp., Brownfield, Tex.

Out of the Mirror: A Thought for Safety



DOWN IN the oil fields of Texas, the chances of putting a personal message across are few and far between. A very logical spot, and a not overly obtrusive one, was found in their clean-up facilities by the Shell Pipe Line Corp., Brownfield, Tex. They decided to mount their message on a shaving mirror.

P. J. Rogers, field gauger, reports that the shaving mirror measures six by eight inches and can be either hung up or set up on its own stand, and hasn't disturbed the vanity of any of the rugged oil workers.

In fact, the words lettered on the mirror, "Am I looking at a person who is doing all he can to prevent accidents," have often startled them and produced the reflective mood necessary to initiate good accident prevention attitudes.

For the Bulletin Board: Colorful Headlines

EDWARD C. CHRISTENSEN, assistant industrial relations administrator, Marathon Co., a Division of American Can Co., Menasha, Wis., has found an aid to succesful presentation of safety ideas on the bulletin board. It consists of four color cartoon illustrations of the barker variety printed on 8½ x 11 inch stock.

Christensen has found that a much higher percentage of the employees in his plant have picked up the safety messages since he started using the cartoon barkers. In addition, the stock with the cartoons on it is not often thrown away when sent out for all-plant employee distribution.

The cartoon illustrated paper is available commercially from National Creative Sales Inc., New York.

Selling Management OTJ Safety

Advertising Council and NSC join forces to convince industry leaders that off-the-job accidents are too costly to tolerate

ANYONE who rides America's mass transportation or watches television is familiar with the sword and the quill symbol of The Advertising Council.

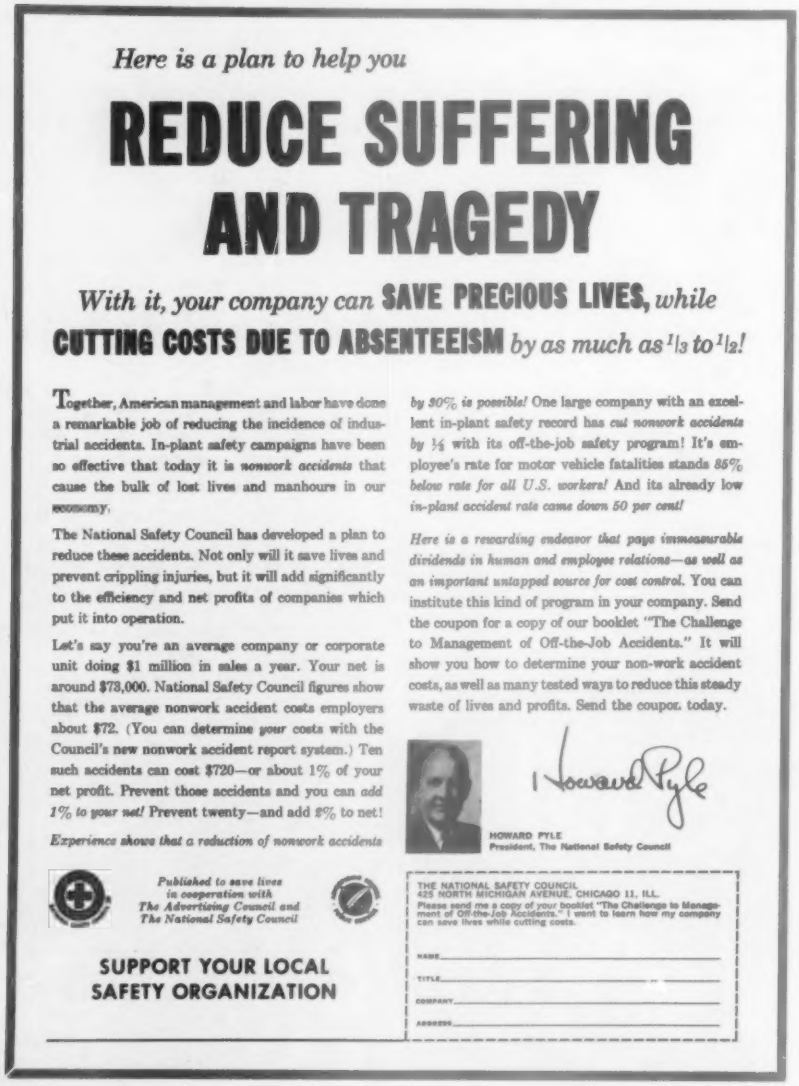
Through the programs of the ad council, Americans have learned why they should support causes such as the Red Cross, Radio Free Europe, forest fire prevention, and better schools. One of the most successful programs of the council has been its Stop Accidents campaign sponsored by the National Safety Council.

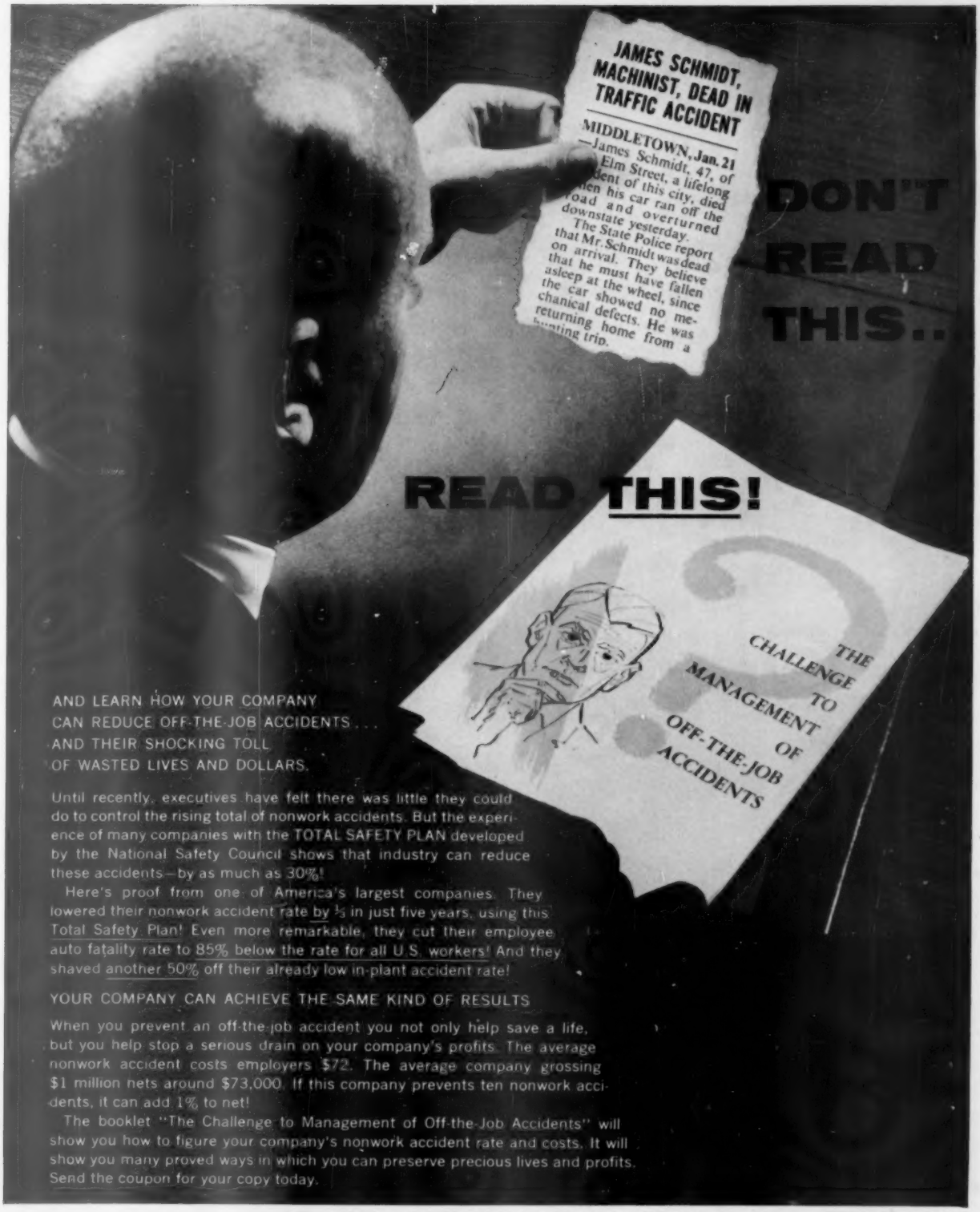
As might be expected, most of the ad council's safety programs have been directed to the general public and consequently the Stop Accidents campaign has hit hard at traffic accidents. Recently, however, the ad council has undertaken a program directed to industrial management. Through its Business Paper Advisory Committee, the ad council is supporting a special public service advertising campaign designed to show management that it is to their interest to help reduce the number of off-the-job accidents occurring to employees and their families.

In a letter addressed to publishers of business magazines and newspapers, Nelson Bond, chairman of the Business Paper Advisory Committee, states, "Off-the-job accidents in the home alone caused 5,800 deaths and 900,000 injuries in a recent year. Traffic and public accidents cause many times these tragic figures and the economic loss alone to the nation is tremendous. Companies which have carried on active off-the-job safety programs have a considerably lower rate of lost time than those which do not have these programs."

The letter offers the business press free electrotypes of the two ads shown on this and on the facing page. Each ad offers a 16-page booklet, *The Challenge to Management of Off-the-Job Accidents.*

The 16-page booklet tells management why nonwork accidents are a managerial concern. Figures are provided on cost of such accidents as well as their effect on production. The booklet also includes information on how to set up an off-job program and keep records on nonwork accidents. The booklet concludes with a number of examples of successful company programs.


Here is a plan to help you
REDUCE SUFFERING AND TRAGEDY
With it, your company can SAVE PRECIOUS LIVES, while CUTTING COSTS DUE TO ABSENTEEISM by as much as 1/3 to 1/2!
Together, American management and labor have done a remarkable job of reducing the incidence of industrial accidents. In-plant safety campaigns have been so effective that today it is nonwork accidents that cause the bulk of lost lives and manhours in our economy.
The National Safety Council has developed a plan to reduce these accidents. Not only will it save lives and prevent crippling injuries, but it will add significantly to the efficiency and net profits of companies which put it into operation.
Let's say you're an average company or corporate unit doing $1 million in sales a year. Your net is around $73,000. National Safety Council figures show that the average nonwork accident costs employers about $72. (You can determine your costs with the Council's new nonwork accident report system.) Ten such accidents can cost $720—or about 1% of your net profit. Prevent those accidents and you can add 1% to your net! Prevent twenty—and add 2% to net!
Experience shows that a reduction of nonwork accidents by 50% is possible! One large company with an excellent in-plant safety record has cut nonwork accidents by 1/3 with its off-the-job safety program! It's employee's rate for motor vehicle fatalities stands 55% below rate for all U.S. workers! And its already low in-plant accident rate came down 50 per cent!
Here is a rewarding endeavor that pays immeasurable dividends in human and employee relations—as well as an important untapped source for cost control. You can institute this kind of program in your company. Send the coupon for a copy of our booklet "The Challenge to Management of Off-the-Job Accidents." It will show you how to determine your non-work accident costs, as well as many tested ways to reduce this steady waste of lives and profits. Send the coupon today.
HOWARD PYLE
President, The National Safety Council
Published to save lives in cooperation with The Advertising Council and The National Safety Council
SUPPORT YOUR LOCAL SAFETY ORGANIZATION
THE NATIONAL SAFETY COUNCIL
425 NORTH MICHIGAN AVENUE, CHICAGO 11, ILL.
Please send me a copy of your booklet "The Challenge to Management of Off-the-Job Accidents." I want to learn how my company can save lives while cutting costs.
NAME
TITLE
COMPANY
ADDRESS


JAMES SCHMIDT, MACHINIST, DEAD IN TRAFFIC ACCIDENT
MIDDLETOWN, Jan. 21 —James Schmidt, 47, of Elm Street, a lifelong dent of this city, died hen his car ran off the oad and overturned downstate yesterday.
The State Police report that Mr. Schmidt was dead on arrival. They believe that he must have fallen asleep at the wheel, since the car showed no mechanical defects. He was returning home from a hunting trip.
DON'T READ THIS..
READ THIS!
THE CHALLENGE TO MANAGEMENT OF OFF-THE-JOB ACCIDENTS

AND LEARN HOW YOUR COMPANY CAN REDUCE OFF-THE-JOB ACCIDENTS . . . AND THEIR SHOCKING TOLL OF WASTED LIVES AND DOLLARS.

Until recently, executives have felt there was little they could do to control the rising total of nonwork accidents. But the experience of many companies with the TOTAL SAFETY PLAN developed by the National Safety Council shows that industry can reduce these accidents—by as much as 30%!

Here's proof from one of America's largest companies. They lowered their nonwork accident rate by ⅓ in just five years, using this Total Safety Plan! Even more remarkable, they cut their employee auto fatality rate to 85% below the rate for all U.S. workers! And they shaved another 50% off their already low in-plant accident rate!

YOUR COMPANY CAN ACHIEVE THE SAME KIND OF RESULTS

When you prevent an off-the-job accident you not only help save a life, but you help stop a serious drain on your company's profits. The average nonwork accident costs employers $72. The average company grossing $1 million nets around $73,000. If this company prevents ten nonwork accidents, it can add 1% to net!

The booklet "The Challenge to Management of Off-the-Job Accidents" will show you how to figure your company's nonwork accident rate and costs. It will show you many proved ways in which you can preserve precious lives and profits. Send the coupon for your copy today.

Published to save lives in cooperation with The Advertising Council and the National Safety Council

SUPPORT YOUR LOCAL SAFETY ORGANIZATION

NATIONAL SAFETY COUNCIL
425 NORTH MICHIGAN AVENUE
CHICAGO 11, ILLINOIS

Please send a copy of "The Challenge to Management of Off-the-Job Accidents." I want to learn how my company can save lives and dollars with your TOTAL SAFETY PLAN.

NAME_____

ADDRESS_____

CITY_____ ZONE_____ STATE_____

Fast Thinking Saves Sight

Typist remembers advice in NSC industrial hygiene director's dictation, and applies it to save roommate's eyes

NATIONAL SAFETY COUNCIL

Inter-Office Correspondence

Date October 2, 1961

Memo to Mr. Siedlecki

Dear Mr. Siedlecki:

I am writing to tell you how indebted to you I feel today.

Recently, I have been typing most of your letters and have noticed how invariably interesting they are. Not too long ago I wrote a letter to several people for you concerning eye injuries. There were detailed directions in some of them which told what to do in case a person accidentally spilled or sprayed a chemical into an eye.

Last night my roommate was using some cleaning solution to clean the shower bar in our bathroom. The solution was a comple and the ingredients were unknown to us. She reached above her head to spray some of the solution on the bar and pointed the nozzle in the wrong direction, thus spraying it directly into her eyes.

It seemed to be quite painful to her and my other roommate and I were not quite sure what to do. I began to read the label on the can and when I realized that it didn't tell what the solution contained, I read the caution which said: "Keep away from eyes." Then I remembered that I had written the above-mentioned letters for you and that you gave specific instructions in almost all of them to flush with cold running water for at least 15 minutes or until a doctor could be reached.

Anyway, you can guess what happened. I pushed her head under the bathtub faucet and told my other roommate to call someone to come and take her to a doctor. After she got to the hospital they told her that she might have gone blind since her eyes had already been badly burned, had someone not known what to do. Now they believe that it will be only a temporary injury.

Nevertheless, if I hadn't been working for the National Safety Council and writing your letters, I would never have known that it was the proper way to treat an eye injury.

Thank you again.

Lee Baker

PUT IT IN WRITING

WORKING in the National Safety Council steno pool is a pretty good way to pick up useful bits of information about safety. Miss Lee Baker, employed as a typist, recently wrote the following memo to J. T. Siedlecki, director of industrial hygiene, proving the point:

"I am writing to tell you how indebted to you I feel today.

— To page 101

A NATIONAL SAFETY COUNCIL TECHNICAL SERVICE

DATA SHEET 511

CONSTRUCTION MATERIAL HOISTS

Copies of this data sheet will be available for order within 30 days.

This data sheet is one of a series published by the National Safety Council, reflecting experience from many sources. Not every acceptable safety procedure in the field is necessarily included. This data sheet should not be confused with American Standard Safety codes, federal laws, insurance requirements, state laws, rules and regulations, or municipal ordinances.

Introduction

1. The purpose of this data sheet is to provide a guide for the design, erection, and operation of various types of material hoists commonly used in the construction industry. The safety recommendations made are to be considered minimum. Whenever application of them does not afford sufficient protection for material and for personnel working in the vicinity of the hoist, additional safeguards should be provided.

2. In all localities which have regulations or safety codes specifically for material hoists, the recommendations in this data sheet must be subordinated to the local laws. The legal authority having jurisdiction should be consulted before material hoists are erected or used.

3. Material hoists must be designed and installed to handle all types of materials and maximum expected loads with a safety factor of 5.

4. No one should be allowed to ride a material hoist except to lubricate it and to make inspections and repairs. The operator should be instructed not to move the cage or platform and the signalman should be instructed not to signal a move if anyone attempts to ride the hoist for any purpose other than those cited. "No Riders Allowed" signs should be posted at all landings (Figure 1).

5. *If general personnel are to be hoisted, the entire installation must be designed and constructed to provide adequate safety for passengers.*

6. Before the hoist is placed in service, all parts of the tower, cage or platform, and hoisting machine should be thoroughly inspected and approved by a qualified inspector.

7. All sheaves, guy ties, bolt connections, miscellaneous clamps, braces, and similar parts should be regularly inspected after the installation is placed in operation. All parts or cables worn enough to present a hazard should be immediately replaced or repaired. Guides of all hoists must be kept in rigid alignment at all times.

8. Safe operating rules should be established and posted in conspicuous places on the construction site before work involving the material hoist is started. Such rules should include the following points:

a. Signal systems.
b. Provisions for authorized riding on the hoist platform or cage. (Riding may be authorized *only* for purposes of lubricating, inspecting and making repairs.)
c. Inspection and repair procedures.
d. Methods of loading and unloading the hoist platform or cage.

9. Material hoists should be designed by qualified engineers who understand the uses which the installations are to serve. Hoists must be erected by competent personnel.

10. Only competent, reliable, and experienced men in good health should be assigned responsibility for operating hoists. They must have passed the necessary job examinations and have obtained an appropriate operator's license.

11. Each operator, before starting the job and periodically thereafter, should be examined and provided with a physician's certificate of physical fitness.

12. Whenever an inexperienced operator or hoisting engineer is employed, he must be supervised by an experienced operator until full competence is established and he has obtained the appropriate license.

Hoisting Towers—General

13. Foundations of hoisting towers should be level and large enough to spread the hoist load so that it will not exceed the safe bearing capacity of the soil.

14. Diagonal bracing should be placed on each of the four sides of the tower and between horizontal

Figure 1. Example of a sign used at entrance to a construction material hoist.

TABLE I. MINIMUM LUMBER SIZES FOR MEMBERS OF WOOD TOWERS*

CAGE OR BUCKET CAPACITY UP TO	HEIGHT FROM TOP DOWN (FEET)	POST SIZES (INCHES)	GUIDE SIZES S 4 S (INCHES)	HORIZONTAL SIZES (INCHES)	DIAGONAL BRACE SIZES (INCHES)	MAXIMUM TIE SPACING (FEET)
500 lbs.	Top to 72	4x4	2½x3½	1x6	1x6	6
500 "	72 to 198	4x6	2½x3½	2x6	1x8	6
1,000 " or ¼ cu yd	Top to 72	4x4	3½x3½	1x6	1x6	6
1,000 " or ¼ " "	72 to 126	4x6	3½x3½	2x6	1x8	6
1,000 " or ¼ " "	126 to 198	6x6	3½x3½	2x6	1x8	6
2,000 " or ½ " "	Top to 80	4x6	3½x3½	2x6	1x8	8
2,000 " or ½ " "	80 to 128	4x6	3½x3½	2x6	1x8	8
2,000 " or ½ " "	128 to 208	6x6	3½x3½	2x6	2x6	8
4,000 " or 1 " "	Top to 80	4x6	3½x3½	2x6	2x6	8
4,000 " or 1 " "	80 to 128	6x6	3½x3½	2x6	2x6	8
4,000 " or 1 " "	128 to 208	6x6	3½x3½	2x8	2x6	8

*From *Safety Manual EM 385-1-1*, Corps of Engineers, U.S. Army; available from Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C.

crossties except at loading platforms.

15. No more than two diagonal braces should be removed from any tier in the tower, and diagonal braces should never be removed from two vertically consecutive panels. When it is necessary to remove diagonal bracing at any point of the tower, some other reinforcement of equivalent strength must be provided.

16. All towers and masts should be plumb and guyed against swaying or tipping. Towers should be anchored at the top and also at the bucket dumping positions, if any.

17. Towers should be guyed as follows:

a. Towers constructed adjacent to buildings should be securely tied to the buildings or anchored with wires.

b. Wood towers independent of buildings should be guyed at each corner post at least every 32 ft.

c. Metal towers independent of buildings should be guyed at each corner post at least every 40 ft.

d. Guy lines should be at least ⅜-in. wire rope or galvanized steel strand. All anchors should be designed to develop the strength of the guy.

18. A tower or mast on which a boom is to be supported and used should be so designed and strengthened at the points where the boom may be attached as to sustain safely the maximum working load and the movement of the boom (Figure 2).

19. The boom anchor should be located at a level where guy lines are attached. The upper fastening of the falls which raise and lower the boom should be placed at a distance not less than one-half the length of the boom above the boom anchor and at a level supported by guys. The guy lines and anchors supporting these two points should be designed to carry the extra stress imposed by the boom load. A sign showing the boom capacity should be posted at the base of the tower.

20. The spacing interval for anchors may be increased and the number of guys reduced to permit the use of apparatus having long booms when the material used and the method of tower construction provide equivalent strength.

21. Every construction tower should be effectively grounded to provide protection against electrical shock and to arrest any lightning bolt that may strike the tower.

22. Working platforms of ample size and strength, with standard railings and toe boards, should be built at each level where men work. Such locations are bucket dumps, hopper headers, and similar places.

Wood Towers

23. Wood towers should be built of material which has been treated to retard fire. Wood material should be No. 1 common Douglas fir or equivalent, except for cage or bucket guides, which should be clear, straight-grained Douglas fir or equivalent, free from knots or defects.

24. Wood members for the corner posts may be built up of 2-in. laminated material. The wood members, such as pads and braces, may be bolted or nailed. No bolts less than ½ in. in diameter should be used. If the members are nailed, 5

Figure 2. A hoist tower with a Chicago boom.

eight-penny nails should be used for 1-in. material and 5 twenty-penny nails should be used for 2-in. material on each side of the joint.

25. Minimum lumber sizes for the various members in wood towers are specified in Table I. Nailing should be in accordance with the schedule shown in Table II.

TABLE II
NAILING SCHEDULE FOR WOOD TOWERS*

MEMBERS	1-IN. MATERIAL	2-IN. MATERIAL
Diagonal Braces	5 - 8d	5 - 20d
Horizontal Ties	5 - 8d	5 - 20d

*From *Safety Manual EM 385-1-1*, Corps of Engineers, U.S. Army; available from Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C.

26. All splice pads in posts should be at least 2 in. thick and 4 ft. long, and should be spiked or bolted to at least two adjacent sides of the posts. Butt ends of posts must fit tightly against each other. All splices should be staggered. Metal splice pads of equivalent strength may be used.

27. The overhead framework of all towers should be of sufficient strength to take the total load of all sheaves, the cage or platform, and the material to be hoisted or lowered with a safety factor of 5.

Metal Towers

28. Metal towers should be constructed of steel members which can carry the maximum load specified by the manufacturer with a safety factor not less than 5.

29. The towers should be erected in accordance with the manufacturer's specifications and used according to the recommended safe practices.

Enclosure of Hoist Towers

30. Hoist towers should be enclosed on three sides at all landings to a height of 7 ft. with a wire screen enclosure formed of 1½-in. mesh, No. 16 U.S. gauge wire, or equivalent, securely fastened to the tower structure. If a ladder or stair is erected as a part of the tower, the tower should be enclosed to the full height to separate the cage or platform from the ladder or stair. An opening should be made at each floor level, and the landings should be protected.

31. Except at the bottom landing, tower enclosures may be eliminated on those installations in which the platform or cage is enclosed as provided for in paragraphs 56 and 57.

Landing Protection

32. Landing platforms that connect the shaftway to the building should be constructed of material capable of sustaining the maximum anticipated load to be imposed upon them. If floors of platforms are covered with metal, they should have nonslip surfaces.

33. Standard guard rails should be constructed on exposed sides of the landing platforms. Intermediate rails and toe boards should also be installed on exposed sides.

34. A roof of 2-in. material should be constructed about 7 ft. above all landing platforms that are exposed to falling objects.

35. When men are working in an elevator shaftway or construction tower during construction, demolition, or alteration of a structure, protection should be provided not more than two stories above and not more than one story below the level at which the men are working. Such protection should consist of planks not less than 2 in. thick laid across the opening.

36. Shaftways should be enclosed below the lowest landing to prevent access to the space under the platform. The enclosure may consist of 1½-in. mesh No. 16 U.S. gauge wire or of wood slats spaced not more than 1½ in. apart.

Landing Bridges

37. When a building is set back on the upper levels, construction of landing bridges may be necessary to connect the hoist tower to the building. These bridges should be constructed of material capable of sustaining the maximum anticipated load.

38. The bridges should be equipped with standard guard rails and toe boards on the exposed sides. Material should not be stored on the bridge.

Shaftway Protection

39. All entrances into the hoist shaftway should be protected by hinged or pivoted bars, barriers, or gates and equipped with electrical or mechanical interlocks.

40. A hinged or pivoted bar or barrier should be not less than 2 in. by 3 in. in section, placed not less than 3 ft. nor more than 4 ft. above the floor, and located at least 2 ft. from the shaftway.

41. If a gate is used, it should be located not less than 6 in. from the front of the shaftway. It should be at least 6 ft. high, and the bottom should be not more than 2 in. off the floor. A gate should be counterweighted and equipped with a suitable locking or latching mechanism.

42. Electrical contacts can be installed on shaftway bars and gates to indicate to the operator or hoisting engineer that one or more openings are not protected. Such signaling can be handled by a simple contact at each landing, with a signal light located at the hoisting engine.

43. Mechanical interlocks that can be released only by the platform or cage can be installed on the shaftway side of each landing gate. Mechanical interlocks combined with electrical contacts provide the most complete protection.

Inside Material Hoists

44. Wherever construction operations permit, the permanent elevators should be installed and used to hoist materials and personnel. The permanent installations should comply with the provisions of American Standard A17.1, *Safety Code for Elevators, Dumbwaiters, and Escalators.**

45. A temporary car can be built on the permanent car frame. It should be constructed in accordance with the provisions of paragraphs 55 through 58 and equipped with a car gate if personnel are to be transported (Figure 3).

46. A covering of planking not less than 2 in. thick or of heavy wire mesh should be placed on the crosshead to cover the entire platform. This top may be built in sections and hinged to facilitate the handling of long materials.

47. On the sides not used for

*Published by the American Standards Association, 10 E. 40th St., New York 16, N.Y., and hereinafter referred to as the *Elevator Code*.

loading or unloading, the platform should be enclosed with 1½-in. mesh screen formed of No. 16 U.S. gauge wire, or equivalent, and equipped with toe boards.

48. The shaftway should be enclosed in accordance with the requirements of the *Elevator Code*, and permanent shaftway doors and gates with permanent interlocking system should be installed and used. Otherwise, the sides of the shaftway not used for entrances should be enclosed on each floor to a height of at least 8 ft. with 1½-in. mesh netting formed of No. 16 U.S. gauge wire or with wood slats spaced vertically not more than 1½ in. apart and equipped with a toe board around all sides except the entrances. In addition, the shaftway should be protected by one or more of the means described in paragraphs 39 through 43.

49. When two material hoist towers are installed side by side, protection as described in paragraph 48 should be placed between them, unless covered and enclosed cars are used in the towers.

50. There must be 4 ft. of clearance between the cable attachment on the car, cage, or platform and the top supports when the car, cage, or platform is at the top landing.

51. If construction operations permit, the permanent electric motors, hydraulic pumps, or other motive power should be installed in accordance with the plans and specifications for the particular elevator installation or with the requirements of the *Elevator Code*.

52. Wherever construction operations permit, permanent car controls should be installed. If necessary, temporary controls may be installed so that an operator on the car can hoist personnel and materials properly and safely. If the ultimate elevator installation is of an automatic control type, such controls may be installed and used provided that all other controls of shaftway entrances and car gates have been installed and are operative.

53. Limit switches, car buffers, overspeed governors, and reverse phase relays should all be installed according to the *Elevator Code*. Whenever such installations are not practical, adequate protection should be provided as specified in paragraph 61.

54. In all cases where temporary material hoist towers which are not adaptations of permanent elevators for construction uses are installed or erected within a building, such installations must meet the applicable requirements indicated in paragraphs 13 through 43.

Material Hoist Platforms and Cages

55. All material hoist platforms and cages must be sturdily constructed and must have sufficient strength to carry the rated load with a safety factor of 5. Main members must be bolted or welded. Floors should be securely attached to frames and guyed from corners to prevent tilting.

56. All unused sides of platforms intended to hoist brick, tile, or other loose material should be protected. The sides should be not less than 42 in. high and should be constructed of wood or of No. 16 U.S. gauge wire screen, not more than 2-in. mesh.

57. A cage should be enclosed on the sides not used for loading or unloading for the full height between the floor and the cage top. The sides may be constructed of plywood, lumber, or 1½-in. mesh screen of No. 16 U.S. gauge wire.

58. Overhead protection of plywood, lumber, or heavy wire mesh should be provided at the crosshead of every cage. The top may be installed in sections and hinged to permit transportation of long materials.

59. Whenever construction buggies, wheelbarrows, or like pieces of equipment are placed on the platform or cage, the wheels must be chocked to prevent movement.

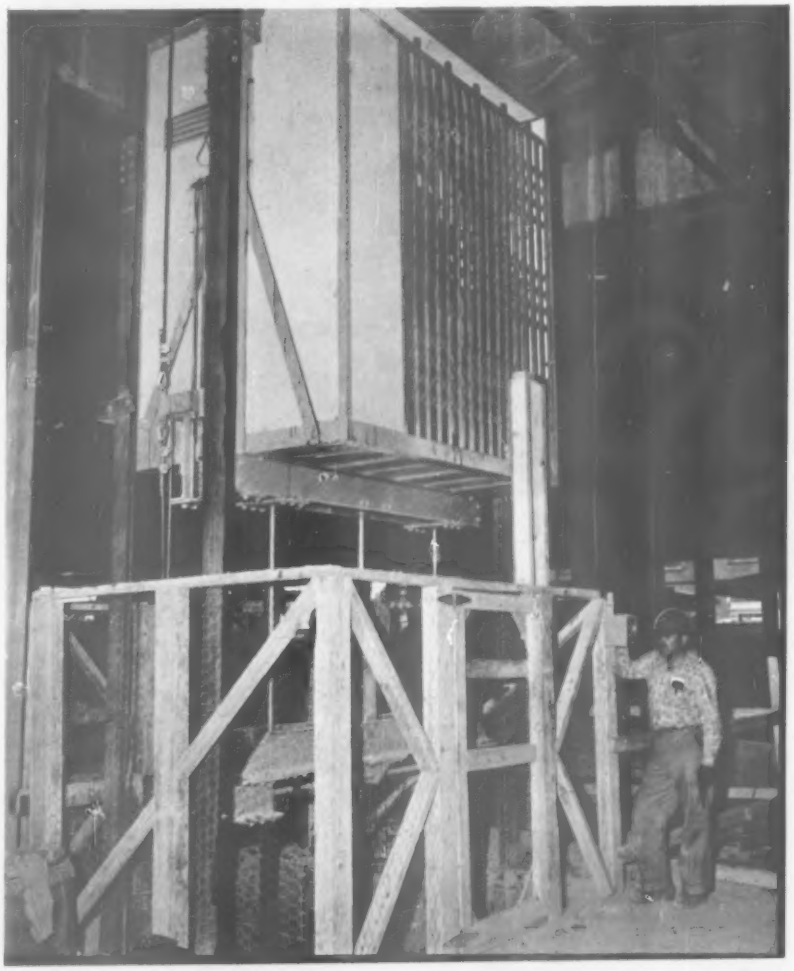


Figure 3. A fully enclosed car equipped with a sliding gate. The base of shaftway is enclosed, and has a swinging gate. The signalman at the entrance uses an intercom system to communicate with the hoist operator.

Cage or Platform Safety Devices

60. Whenever overspeed governors with appropriate safeties are installed on a material hoist, the applicable sections of the *Elevator Code* must be complied with.

61. Broken cable safeties (Figure 4) may be used on material hoist platforms or cages, provided that they are installed in the following manner:

a. The hoisting cables should be fastened to the broken cable safety activating device.

b. The broken cable safety device should be secured to the crosshead or to the underframe in such a manner that the platform or cage will be supported if the safety is actuated.

c. The broken cable safety should be actuated by release of pressure on the actuating spring or by action of an overspeed governor. The safety should operate in such a manner that breaking of the hoisting cable or simply release of tension on it will cause the safety to seize the guides so as to bring the platform or cage to a stop.

d. The safety should be so designed and installed that after it is actuated the only way to release it is to raise the platform or cage from the stopped position.

Hoisting Engines

62. Hoisting engines must be designed to handle the maximum load and must be properly installed and maintained. Each engine should be installed with a beam or strut arrangement between the tower and the engine so that adequate bracing is provided against the pull of the hoisting cable, or should otherwise be securely anchored to provide a safety factor of 5.

63. Each hoisting engine must be equipped with brakes capable of sustaining 150 per cent of the rated load for stopping and of sustaining the maximum load in any position. Mechanical brakes should be so installed as to stop movement of the winding drum or traction sheave. Brake drums should at all times be kept free of oil, grease, or other substance which reduces braking efficiency.

64. In addition to the brakes, each hoisting machine should be equipped with an effective, visible pawl and ratchet capable of holding the maximum load when it is suspended. This provision is necessary so that workmen can enter and leave the cage or platform of the material hoist to load or unload materials at other than the bottom landing.

65. All gearing on hoisting engines should be enclosed or suitably guarded. Steam piping should be insulated, and exhaust stacks should be shielded.

66. Electrical equipment, if used, should be effectively grounded. Cables should be enclosed or shielded as necessary to prevent persons from coming into contact with them.

67. The hoisting engineer and engine should be protected against weather and falling objects by a substantial covering over the entire engine.

68. All hoisting equipment should be frequently inspected, and brakes, gears, and operating levers should be kept in perfect working condition.

69. Hoisting engines should not be set up in the street. When they must be so located, they must be completely housed-in for the protection of the public, the engineer, and the equipment.

70. An elevated platform on which hoisting machinery is set must be constructed of substantial material capable of sustaining the load and any stress that may be placed upon the engine. The walkways of the platform must be equipped with standard guard rails and toe boards.

71. Steam exhaust pipes should discharge overhead, or steam should be piped to some other safe discharge point so as not to scald persons nearby nor obstruct the view of the engineer. Internal combustion engine exhaust pipes should be arranged to exhaust upward and away from workmen so that the fumes will be dissipated harmlessly, and a muffler should be installed to reduce the noise.

Electrical Installations

72. Motors, panel boards, sources of power, brakes, fuses and circuit breakers, elevator car controls, and other devices using electrical power must be installed and operated in accordance with the applicable sections of the *Elevator Code*, the *National Electrical Code**, and local legal codes.

Figure 4. A broken cable safety activating device on top of hoist cage.

73. Switchboards should be screened or enclosed, and unauthorized persons should be warned to keep away.

74. All wiring in the elevator shaft or construction tower should be housed in rigid or flexible metal conduit.

75. Shaftway door interlocks should be of a type approved by the Underwriters' Laboratories. Installation should be in accordance with the terms of such approval, as well as with the applicable standards.

Cables and Sheaves

76. All hoisting rope should be selected to perform all anticipated work safely. It should be not less than plow steel grade and should be so constructed of wires and strands of wires as to be equal in flexibility to standard plow steel hoisting rope composed of six strands of nineteen wires each. No hoisting rope should have a diameter of less than ½ in.

77. All hoist ropes should be of such capacity as to provide a factor of safety of 7 based on load and speed requirements. Hoisting cables should be installed in accordance with applicable standards as respects length, anchor, transfer of cable from reel to drum, and sheave and groove sides.

78. No hoisting rope should be used when more than 10 per cent of its wires are broken in any running foot, or when the wires on the crown of the strand are worn down to less than 60 per cent of their original area or, when by visual in-

**Standard No. 70,* published by the National Fire Protection Association, 60 Batterymarch St., Boston 10, Mass.; also published by the National Board of Fire Underwriters, 85 John St., New York 7, N.Y.

spection the rope shows marked signs of corrosion.

79. Cable fastenings should be made substantially and maintained securely. Tapered sockets used to fasten cables should be selected and installed in accordance with the provisions of the *Elevator Code*.

80. Whenever cable clips are used to fasten cables, the minimum number of clips is determined by the diameter of the cable, as indicated in Table III, but in no case should fewer than three clips be used. The U-side of the clips should be placed on the dead end of the rope. The spacing between clips should be equal to at least six times the diameter of the rope. All sharp edges should be prevented from coming into contact with the rope.

TABLE III
NUMBER OF CABLE CLIPS TO BE USED*

DIAMETER OF CABLE (INCHES)	NO. OF CLIPS TO BE USED
7/16 to 5/8	3
3/4 to 1 1/8	4
1 1/4 to 1 1/2	5
1 5/8 to 1 3/4	6
2	7
2 1/4 to 2 1/2	8

*From *Wire Rope Users Handbook*, American Cable Co.

81. Minimum requirements for sheaves are given in Table IV. For cables of larger size, the sheave size and axle size should be increased proportionately. The diameter of sheaves should be measured at the bottom of the grooves.

82. All sheaves should be of iron or steel and of sufficient strength to support the loads which they have to carry. All sheaves should have axles of a grade at least equal to cold rolled shafting.

83. All sheave bearings should be lined with babbitt or equivalent bearing metal, or the sheaves should have ball or roller bearings. The bearings should be provided with ample means of lubrication without removal of keepers.

Signal Systems

84. One of several types of signal systems may be used: hand signals, audible signals, or electrical signals. Whatever the system in use, a copy of the signals should be posted in a conspicuous place on or near each landing and at the hoisting engineer's position.

TABLE IV. MINIMUM REQUIREMENTS FOR SHEAVES*

DIAMETER OF HOISTING CABLE (INCHES)	DIAMETER OF SHEAVE (INCHES)	DIAMETER OF AXLE (INCHES)
1/2	14	1 3/16
5/8	18 1/2	1 7/16
3/4	21	1 11/16
7/8	24 1/2	1 15/16
1	28	2 3/16

*From *Manual of Accident Prevention in Construction*, published by The Associated General Contractors of America, Inc., Washington 6, D. C.

85. One-hand signals to hoist operators are as follows:

a. *Hoist:* With forearm vertical and forefinger pointing upward, move hand in small horizontal circle.
b. *Lower:* With arm extended and palm down, wave hand down and up.
c. *Stop:* With arm extended and palm down, hold position rigidly.
d. *Emergency stop:* Same position as *Stop*, but move hand rapidly right and left.
e. *Dog off load:* With forearm vertical, clasp and unclasp fist several times.

86. Two-hand signals to hoist operators are as follows:

a. *Hoist:* Hold both arms horizontal at sides, fully extended; move upward and return.
b. *Lower:* Let arms hang at sides, fully extended; move out and return.
c. *Stop:* Hold both arms horizontal at sides, fully extended; hold position rigidly.
d. *Emergency stop:* Hold both arms horizontal at sides, fully extended; move both arms rapidly from back to front.
e. *Dog off load:* Clasp fingers of one hand with fingers of the other, palms facing each other.

87. Audible signals should not be used when there are surrounding noises of the same, or nearly the same, frequency and octave level. Signals given by means of a whistle, bell, horn, or other audible means are as follows:

a. *Hoist:* Two short blasts or gongs.
b. *Lower:* Three short blasts or gongs.
c. *Stop:* One short blast or gong.
d. *Emergency stop:* Series of short blasts or gongs.
e. *Dog off load:* One long blast or gong.

88. An electrical signal system utilizing bells or lights may be used. A bell signal system that does not register landing calls should use the signals indicated in the preceding paragraph to control movement of the cage or platform.

89. One of two types of light systems, either a general system or a specific call system, may be installed.

90. In a general system, the necessary light or lights must be so located at the operating engineer's station that they are readily visible to him at all times. A call button must be installed at each landing. Control of the hoist platform or cage is governed by the following light signals:

a. *Hoist:* Two lights or two light flashes.
b. *Lower:* Three lights or three light flashes.
c. *Stop:* One light or one light flash.
d. *Emergency stop:* Series of light flashes.
e. *Dog off load:* One long light or lighting of separate dog-off light.

91. In a specific call system, a light to indicate each floor landing must be installed in the most visible position at the operating engineer's station. A call-signal button must be installed at each landing. When the car, cage, or platform is needed at a certain place, the call-signal button registers that location on the proper light at the engineer's station. Signals for movement may be given by audible or visible means.

92. Electrical intercommunication systems may be installed (Figure 5). The wiring for such systems should comply with the pertinent provisions of the *National Electrical Code*.

93. Speakers should be so located at the hoisting engineer's position that he can communicate with all stations. A speaker should also be located at each landing so that communication can be maintained with the operating engineer.

94. Mechanical and electrical sig-

nal systems should be inpected daily. Worn or damaged parts should be replaced immediately.

Concrete Bucket Towers

95. A concrete bucket tower located inside a structure 3 ft. or less from a scaffold or from the edge of the shaftway or floor opening in which it is installed should be enclosed on all sides with 1½-in. mesh wire netting formed of No. 16 U.S. gauge wire. Wood slats placed vertically and spaced not more than 1½ in. apart may be used in place of the netting. The enclosure should extend at least 8 ft. above the scaffold or floor. A concrete bucket tower located outside a structure should be similarly enclosed.

96. Openings with platforms should be formed at each floor level or bucket discharge point. The runways leading to the tower should be guarded with standard railings and toe boards.

97. If the bucket discharges into a chute, the chute should be substantially constructed of wood or metal and should extend from the tower to the point where the concrete is to be poured or transferred to vehicles or hoppers. The chute should be substantially supported and pitched so that the concrete will flow by gravity.

98. A pit deep enough so that any spillage from the bucket will fall below the blocking on which the bucket rests while it is being filled should be constructed under the hoist. Drainage from the pit should be provided for.

99. Men should not be allowed to work in the pit without first resting the bucket on strong timbers, metal beams, or equivalent, supported on two sides of the tower.

Figure 5. Operator of a 42-story hoist used for transporting both men and material. The switchboard at the right and the earphones and microphone provide direct communication with each floor. The lights on the panel at left indicate the floor position of the car.

100. The sheaves over which the cable passes should be firmly secured to overhead beams and supporting framework, and the sheave bearings should be kept well lubricated.

101. Every bucket hoist should be provided with a broken-rope safety device.

REFERENCES

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Safety Code for Elevators, Dumbwaiters, and Escalators, American Standard A17.1, American Standards Association, 10 East 40th St., New York 16, N.Y.

ACKNOWLEDGMENT

This data sheet was prepared by the Engineering Committee of the Executive Committee, Construction Section, National Safety Council. It has been extensively reviewed by members of the National Safety Council, governmental experts, and representatives of chapters of the American Society of Safety Engineers. It has been approved for publication by the Publications Committee of the Industrial Conference of the National Safety Council.

BERT

Safeguarding Safety Progress

In this address given at the National Safety Congress, a high-ranking industrial executive expresses his confidence in the organized safety movement

By JOHN F. GORDON

SAFETY promotion in industry is a *team effort*. Every individual must participate, just as all must help achieve such industrial goals as high productivity and high quality.

This universal obligation for safety adds emphasis to the responsibilities of management.

Down-the-line individual cooperation is a result of sound *leadership*. Management must provide a safe working environment. It must develop safe procedures. It must train employes. It must assure adequate supervision. It must stimulate safety consciousness through continuing education.

Above all, management must keep everlastingly at the job. Accidents are a *continuing threat*. Their prevention must be a *continuing effort*.

In 1960, GM people set a new record of industrial safety for themselves. Out of every thousand GM employes in the United States and Canada, 998 went through the entire year without a disabling accident or occupational disease. Stated another way, we had less than one disabling injury per million manhours worked.

This year, for the fifteenth time, the National Safety Council presented General Motors its "Award of Honor."

If you think this sounds like boasting, you are quite right. It *is* boasting. I admit it without embarrassment because I believe we all should take more conspicuous pride in safety awards. We should be proud not only of the commendation itself but – more important – of the achievement on which it is based.

To give the safety movement the greater momentum it needs, we must build its prestige. We should blow our own horn over a safety record as enthusiastically as we do over a production or sales record.

I realize, of course, that an essential tool of the safety professional is the "view with alarm" technique. At the same time, it seems to me that "pointing with pride" should not be neglected.

It will help keep safety in the limelight. It will also help ward off fearful or fatalistic public reactions that can be evoked by an excessive diet of dire warnings.

The latest edition of NSC's *Accident Facts* contains, along with sober reminders of the challenges still confronting you, many evidences of heartening progress. For the sake of your own morale, if nothing else, you ought to look at these from time to time.

Taking the quarter century since 1935, we find that the population death rate for all accidents has dropped almost one-third. Moreover, the total number of accidental deaths per year has declined. And this has occurred despite our great population increase and the greater exposure to hazards in today's more complex society.

In the occupational safety field we find the death rate down almost one-half and the injury rate down more than half. We note individual company records of up to 31 million man-hours of work without a disabling injury.

On the highway the fatality rate per 100 million vehicle miles has dropped from 15.9 in 1935 to 5.3 last year – a decline of two-thirds. This gain has been achieved despite the fact that we have almost three times as many motor vehicles traveling more than three times as many miles.

Obviously, there is no basis for complacency in these figures. The record can and must be greatly improved. But there is a basis for confidence – confidence that sustained, intelligent application of recommended measures will achieve continuing progress.

Adherence to this conviction is a necessary defense against certain forces which threaten to impede the safety movement. These forces are many and varied, but they have one thing in common. They are all founded on the false premise that the situation is hopelessly out of control and that a drastically different approach is needed.

From this common starting point, various groups go in different directions. One takes the worn and crowded road to Washington to seek the supposed magic of federal intervention. Another sets forth like medicine men to peddle a new gadget or gimmick. Another, moving backward, urges drastic, "police-state" measures. Still others just roam about looking for scapegoats.

You who have professional competence and responsibility to promote safety must oppose these di-

– To page 102

MR. GORDON is president of General Motors Corporation.

This article was adapted from Mr. Gordon's address at the annual banquet during the 1961 National Safety Congress in Chicago.

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Diary

— From page 10

tell them at staff meetings, "Keep on top, just as you have been doing. Stay with 'em." And the boys will begin to decide I'm becoming a worrier, and I'll have to shut up before I upset them with my nagging. I'll have won or lost my arguments with Mort, and the brethren of the Executives' Club, and the protection people. There'll be nothing more for me to do except sit and wait and pray and be ready to backstop the boys in an emergency. By Thursday, I'll have the fidgets so badly that I'll call Lee into the office to sit at the desk and wait for the phone, and I'll start moving through the Project, plant by plant, department by department.

That will keep me occupied all day looking, commenting, arguing, wheedling people to keep safety standards up. Friday morning, the last work morning before Christmas, I'll be out again, walking, looking, talking. And as the plants one by one shut down at various hours, depending on the generosity of the various managements and/or the backlog of orders they face, I'll heave sighs of relief and move on to the plants still operating, drawing my assistants in with me as a tighter and tighter cordon of accident prevention activists in plants getting gayer and more irresponsible with the passing hours.

Finally, we'll see the last plant shut down, and if there have been no accidents, we'll go back to the safety office and exchange our departmental gifts and wish each other "Merry Christmas," and the boys will leave. But I know that Sue won't expect me early – not the last work night before Christmas. I'll putter ineffectively at desk chores long enough to make reasonably sure that if any of the employees had cracked up their cars on the way home, we'd have had a report.

And then I'll put on my hat and coat and open the door and start out. But I'll pause in the entrance to give the phone another chance to ring with news of trouble. And only then will I close the door and go home happy!

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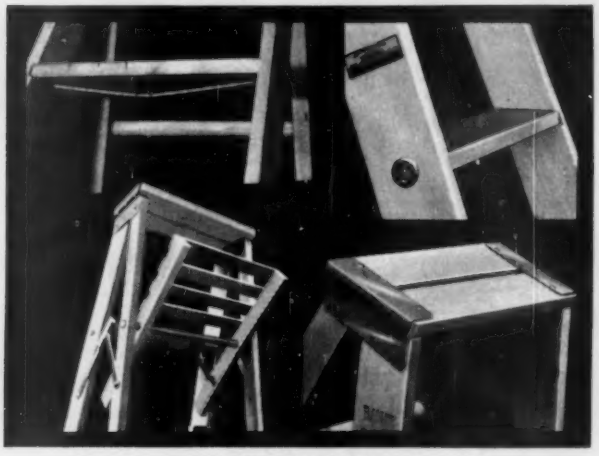

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Personals

— From page 27

tive in many national groups, including the American Ordnance Association, of which he is a past president. He is a fellow of the Standards Engineers Society and is a chartered association executive of the American Society of Association Executives. He witnessed the approval of some 500 new American Standards.

J. Janous

A. H. Goelzenleuchter

AEC Fellowship To Janous

A. H. GOELZENLEUCHTER, a nine-year veteran in the field of industrial safety, has been named acting works safety supervisor for Kaiser Aluminum & Chemical Corp., Ravenswood Works.

He succeeds JOHN JANOUS, safety supervisor at Ravenswood since 1959. Janous is one of seven selected this year to receive an Atomic Energy Fellowship in industrial hygiene. He begins his studies immediately at the University of Pittsburgh's Graduate School of Public Health under a program administered by the Oak Ridge Institute of Nuclear Studies.

He will concentrate on the field of ergonomics (the development and application of scientifically derived working methods).

A graduate of the University of Chicago with a B.S. in psychology and graduate work in human development, Janous joined Kaiser Aluminum in 1952 at Chalmette, La. He came to Ravenswood in 1957 as assistant safety supervisor and was named works safety supervisor in 1959.

Under the AEC grant, Janous will work toward a master's degree in industrial hygiene.

He is currently serving as chairman of the Mid-Ohio Valley Safety Association, is a member-at-large of the West Virginia Chapter, American Society of Safety Engineers, and is a member of the Executive Committee for the National Safety Council's Metals Division, Nonferrous Group.

Goelzenleuchter, who assumes his new duties this month, joined Kaiser Aluminum in 1959 at Gramercy, La.

A graduate of the University of Houston with a B.S. in mechanical

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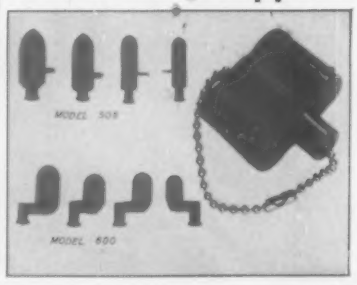

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engineering, his experience encompasses some nine years of safety development and administration.

JACK L. KING, pot operations foreman, will replace Goelzenleuchter as acting assistant safety supervisor.

AT&T Safety Supervisor Retires

WADE BUTLER, American Telephone and Telegraph Co. operations department safety supervisor since March, 1960, retired recently after 37 years with the firm.

Butler was graduated from Virginia Polytechnic Institute. He held assignments as an outside plant engineer, construction methods engineer, and safety supervisor, operations department. Before retiring he was technical adviser on a feature safe driving film.

Succeeding Butler as operations department safety supervisor is JIM PARKER, a graduate of Colorado A & M College who began his career as a lineman. He has experience in plant, traffic, and public relations, and has been general information manager.

Name Supervisor Of Health Physics at A-C

Appointment of M. R. BEEBE as supervisor of health physics has been announced by Allis-Chalmers Safety Services. He succeeds J. W. BAUM, who has joined the staff of the University of Michigan.

Beebe will be responsible for corporate staff programming in radiation and nuclear safety, and will provide staff safety coordination for its atomic energy division.

Construction Industry Representative Dies

JAMES D. MARSHALL, executive director of the Associated General Contractors of America, died November 3 at a Washington, D. C. hospital following an operation. He was 74 years old.

Marshall, who had been connected with the AGC since 1925, studied electrical engineering at the University of Minnesota. He was president of the Minnesota Electrical Contractors Association, chairman of the Minnesota section of the American Institute of Electrical Engineers, and manager of the Governing Board of the Minnesota Fed-

eration of Architectural and Engineering Societies.

Before entering trade association work professionally, he served in executive positions with the Northwestern Electric Equipment Co., the Peerless Electric Co., and the Minneapolis Electric Equipment Co., all in Minnesota.

In May 1961 Marshall was named a construction industry member of the Missile Sites Labor Commission created by Presidential executive order.

He also represented the AGC or the construction industry on many committees and special groups in the federal government and in private business organizations.

Social Security Bureau Seeks Safety Officer

The Bureau of Old Age and Survivors Insurance, Baltimore, Md., has established a safety officer's position, and is seeking a qualified person to fill the position at the GS-11 level with a starting salary of $7,560 per annum.

The basic functions of the position are:

1. Participation with the bureau medical director and the occupational environmental health specialist in the conduct of a bureau-wide safety program, including the development of safety criteria and standards.
2. Direction and participation in safety inspections in the headquarters establishment, payment centers, and the regional and district offices.
3. Stimulation, throughout the bureau, of safety action by supervisory personnel and safety consciousness on the part of all employees.
4. Dissemination of safety information applicable to both on- and off-the-job environments.

The position is located in the Office of Employee Health, Division of Management. Further information may be procured from, and applications directed to: Jay Brown, placement specialist, Personnel Office, Room 1-P-23A, Bureau of Old Age and Survivors Insurance, 6401 Security Blvd., Baltimore, Md.

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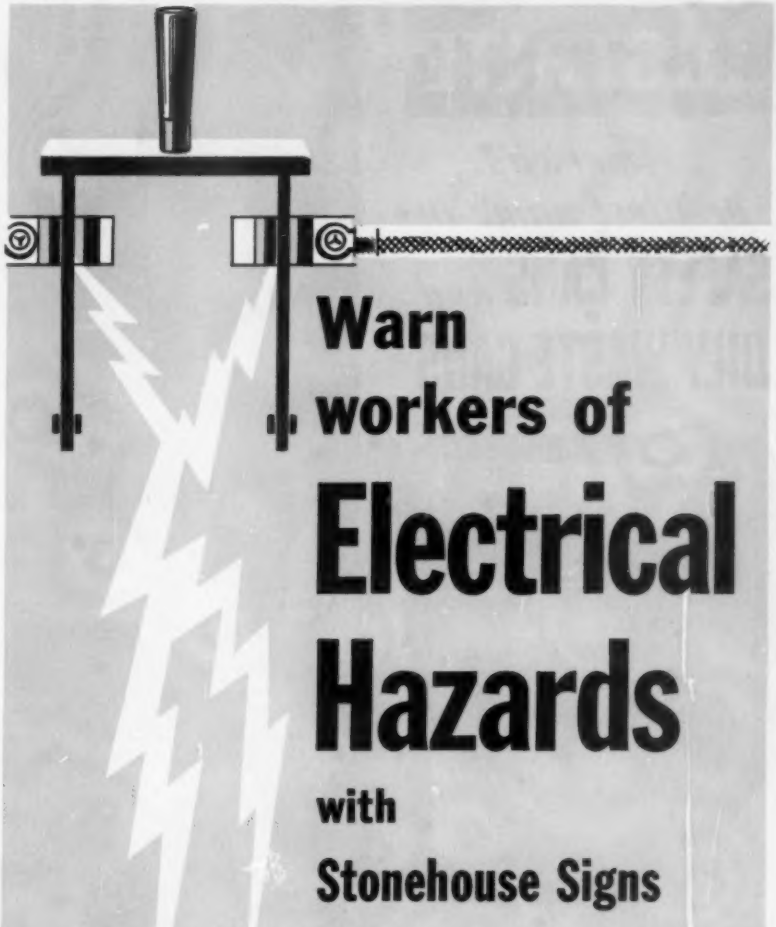

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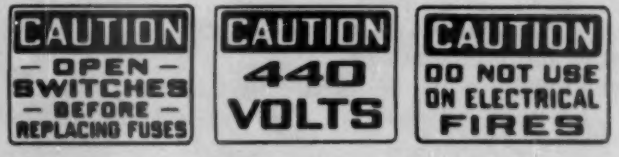

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Key Contacts
NSC members listed here have designated these key contacts for handling relations between their organizations and the NSC.

Air Space Devices, Inc., Safety Tower Ladder Div., P. O. Box 1052, Burbank, Calif.—B. O. Stjernquist.

Adams Packing Association, Inc., P. O. Box 37, Auburndale, Fla.—D. M. McCarthy.

Alaska Division of Highways, 1306 East Fourth St., Anchorage, Ala.—James Messick.

Alphaduct Wire & Cable, 25 Van Dyke Ave., New Brunswick, N. J. — J. Rieser.

American Pad and Textile, S. Washington St., Greenfield, Ohio — J. H. LeBlanc Jr.

American Universal Insurance, Automobile Dept., 44 Wayland Ave., Providence 4, R. I. — W. E. Lauble.

Amoco Chemicals Corp., P. O. Box 568, Texas City, Tex.—T. E. Watson.

Ashland Oil and Refining, 1409 Winchester Ave., Ashland, Ky. — W. G. Ball.

Bayuk Cigars, Inc., Ninth St. & Columbia Ave., Philadelphia 22, Pa.—A. E. Vaxner.

Bayonne Industries, Inc., Foot of E. 22nd St., Bayonne, N. J.—R. W. Elspass.

Behlen Mfg. Co., Columbus, Neb. — Frank Milhollan.

Carpenter Paper Co., 2402 Douglas St., Omaha 2, Neb.—A. H. Winnail.

City of Santa Rosa, City Hall, 210 Hinton Ave., Santa Rosa, Calif.—Kent B. Bathurst.

Cessna Aircraft Co., P. O. Box 1521, Wichita 1, Kan.—Don E. Powell.

The Coca Cola Co., P. O. Box 1734, Atlanta 1, Ga.—R. D. Ford.

Collins Pine Co., Chester, Calif.—Leo L. Oliver.

Delhi Taylor Oil Corp., P. O. Box 4067, Corpus Christi, Tex.—Richard P. Vick.

Dillon Supply Co., 216 West St., Raleigh, N. C. — W. E. Hennessee Jr.

Edmont, Inc., 1300 Walnut St., Coshocton, Ohio — R. E. Hopkins.

El Paso Natural Gas Products Co., P. O. Box 1161, El Paso, Tex.—D. P. Barnum.

The Esterbrook Pen Co., Delaware Avenue and Cooper St., Camden, N. J. — E. C. Ziegler.

Falcon Seaboard Drilling Co., Pan American Building, 8th Floor, Tulsa 3, Okla. — Renee Howard.

Fannie May Candy Co., 1137 W. Jackson Blvd., Chicago 7, Ill. — R. J. Newton.

Foster Forbes Glass Co., East Charles St., Marion, Ind.—William Boxell.

Fox Markets, Inc., 4411 W. Slauson Ave., Los Angeles 43, Calif. — W. E. Emmerling.

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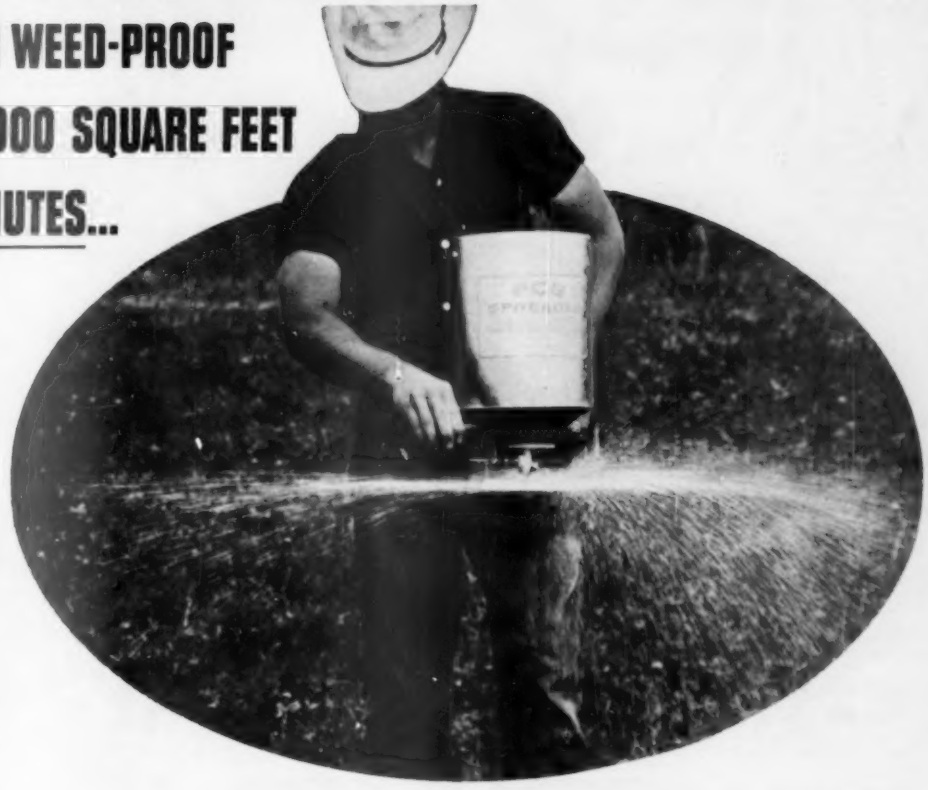

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– From page 31

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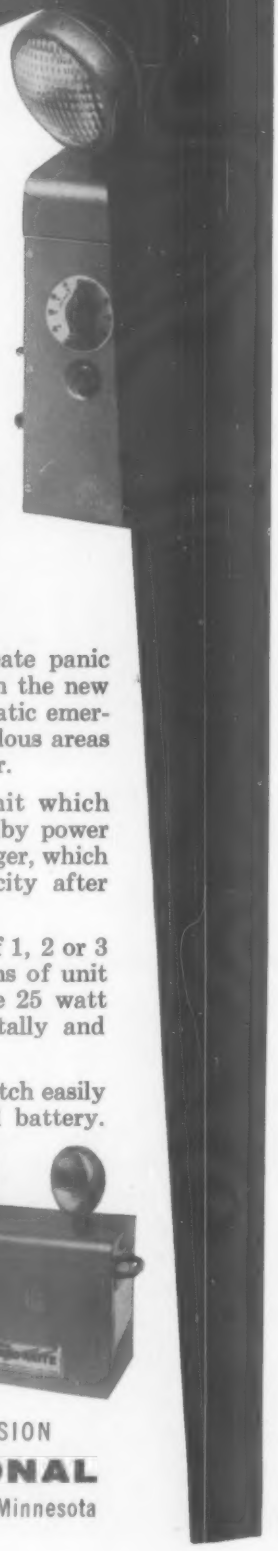

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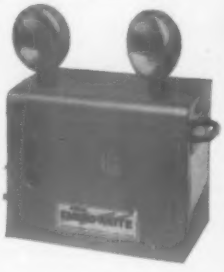

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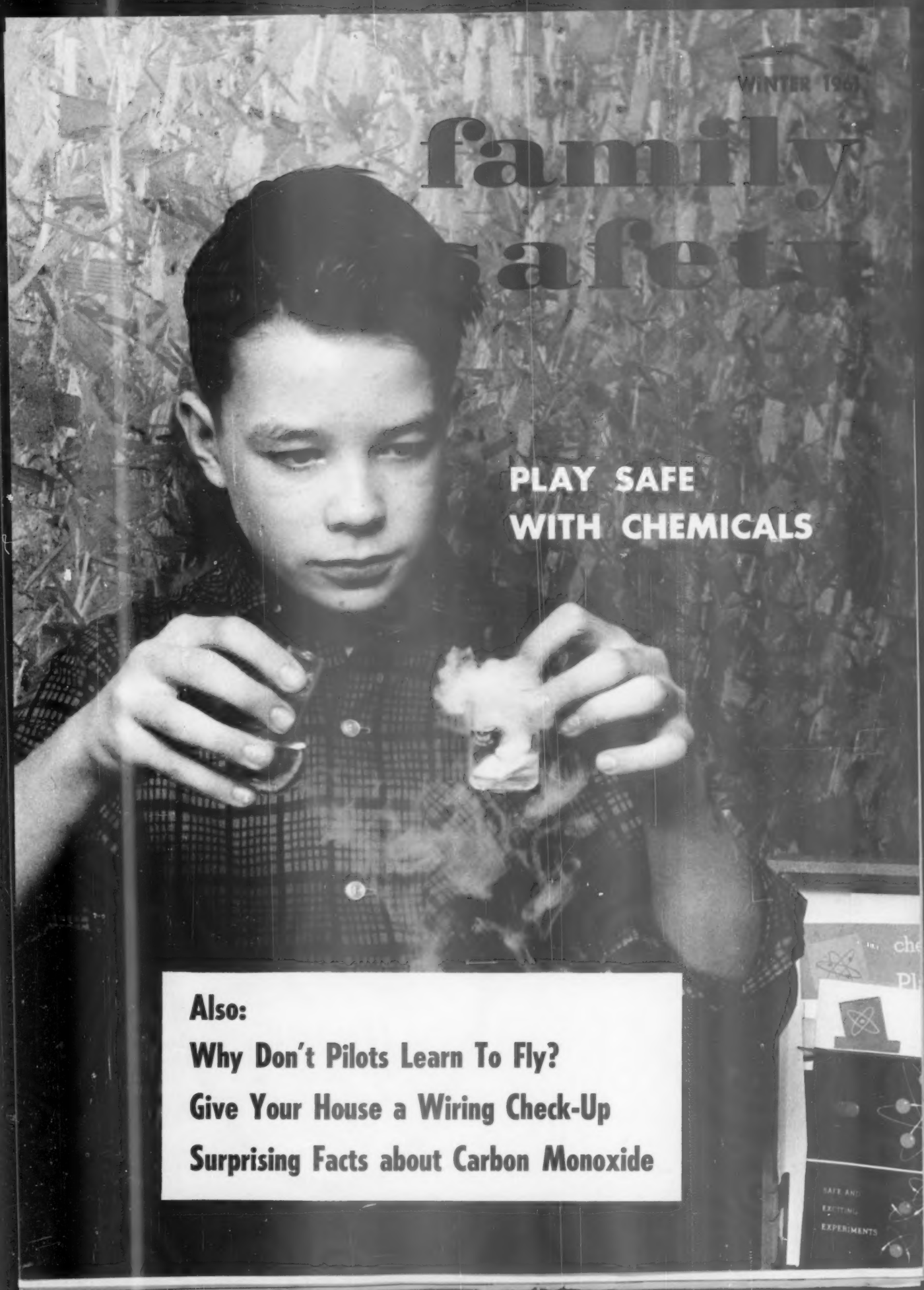
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Canadian Mining Journal, Gardenvale, Que., Canada.

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The Constructor, Munsey Bldg., Washington 4, D. C.

Electric Light and Power, 22 E. Huron, Chicago 11, Ill.

Electrical World, 330 W. 42nd St., New York 36, N. Y.

Factory, 330 W. 42nd St., New York 36, N. Y.

Fire Engineering, 466 Lexington Ave., New York 17, N. Y.

Firemen, 60 Batterymarch St., Boston 10, Mass.

The Graphic Arts Monthly, 608 S. Dearborn St., Chicago 5, Ill.

Hospital Management, 105 W. Adams St., Chicago 3, Ill.

Hydrocarbon Processing and Petroleum Refiner, P. O. Box 2608, Houston 1, Tex.

Industrial and Engineering Chemistry, 1155 Sixteenth St. NW, Washington 6, D.C.

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Industrial Nurses Journal, 170 E. 61st St., New York 21, N. Y.

Journal of American Insurance, 20 N. Wacker Dr., Chicago 6.

Journal of Occupational Medicine, 28 E. Jackson Blvd., Chicago 4, Ill.

Journal of the American Medical Assn., 535 N. Dearborn, Chicago 10, Ill.

The Magazine of Standards, 70 E. 45th St., New York 17, N. Y.

The Management Review, 1515 Broadway, New York 36.

Mechanical Contractor, Suite 570, 425 Rockefeller Plaza, New York 20.

Modern Lithography, P. O. Box 31, Caldwell, N. J.

Modern Sanitation and Building Maintenance, Easton, Pa.

The National Provisioner, 15 W. Huron St., Chicago 10, Ill.

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Qualified Contractor, 610 Ring Bldg., Washington 6, D. C.

Railway Age, 30 Church St., New York 7, N. Y.

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Materials provided FREE by BEAM'S MANUFACTURING CO. Show your employees you **do care** about **their safety** off the job as well as on the job. Save lives, prevent lost-time injuries and prevent unnecessary financial losses in your organization by offering employees a "proven" seat belt educational program to encourage the installation and use of auto seat belts in their personal cars.

For **FREE** materials to help you develop a successful seat belt program for your employees, write for a **FREE COPY of "The Beam's Plan"**- without obligation.

BEAM'S SEATBELTS SAVE LIVES!

CALL COLLECT PE 2-2275

Beam's ®

13th & North Robinson • Oklahoma City, Oklahoma

In Canada order from Safety Supply Company

PLEASE SEND ME A COPY OF THE "BEAM'S PLAN" NSN-12

Name _____

Organization _____ No. of Employees _____

Address _____

City _____ State _____

CIRCLE 32 ON READER CARD

CIRCLE 34 ON READER CARD

Here's ready-made **FIRST AID FOR SLIPPERY FLOORS!**

AUTO-DRI®... is an economical prescription against accidents. Your broom brigade easily spreads this carpet-of-safety on with rake or broom...the thirsty granules instantly soak up oil, grease, liquids ... pull deep deposits out of floor. Leave AUTO-DRI on, or remove and reuse until saturated. AUTO-DRI is mineral ... won't burn. **Costs only a fraction of a cent per sq. ft. of protection!**

Write for generous FREE SAMPLE

SPEEDI-DRI DIVISION
Minerals & Chemicals Philipp CORPORATION
213 ESSEX TURNPIKE MENLO PARK, NEW JERSEY

COPPUS "Blue Ribbon" Ventilator-Exhausters are portable and easily adaptable ... for exhausting welding fumes or foul air from enclosed vessels. Mail coupon below for facts.

COPPUS ENGINEERING CORP.
132 Park Avenue, Worcester 10, Mass.

- ☐ in tanks, tank cars
- ☐ in underground manholes
- ☐ for exhausting welding fumes
- ☐ on boiler repair jobs
- ☐ for general man cooling
- ☐ to stir up stagnant air wherever men are working or material is drying

Name.....
Company.....
Address.....
City.....

COPPUS BLOWERS

CIRCLE 33 ON READER CARD

Around the Compass

Activities
Programs
Events

By JAMES M. BASHAM
Field Service Department, NSC

Illinois Bill Okays County Safety Councils

A new Illinois law allows counties to create a safety council. The council may then appoint and fix the salary of the safety director and other employees as the county board designates.

According to the bill, "The safety council shall conduct safety programs and safety educational campaigns to promote the protection and conservation of life and property and the prevention of accidents in the county."

The county board may appropriate money from the county treasury to defray the expenses of the safety council.

Elmer the Elephant Goes to Seattle

An elephant never forgets. And the people of Seattle, Wash., will never forget Elmer, the Safety Elephant, for they may live longer on his account. To attack the problem of elementary school pedestrian safety during 1960, Mrs. Elsie Von Stubbe, chairman of the Woman's Division of the Seattle-King County Safety Council, brought Elmer to town and introduced him to the safety chairmen from all of Seattle's PTA's.

Elmer was born in Canada. Owing to his fabled memory he was chosen as a symbol to aid children

CREATIVE RESEARCH • QUALITY PRODUCTS • PROFESSIONAL SERVICE

ZORB-ALL takes the danger out of ice

Icy work surfaces can mean injured employees, damaged equipment and costly delays. But a thin layer of ZORB-ALL® will give you safe footing on loading and shipping docks, walks, platforms, ramps and driveways. And ZORB-ALL won't harm grass or concrete. It's an inert calcined clay—not a chemical. ■ So protect your plant from ice this winter. Call your Wyandotte representative or jobber today.

Wyandotte Chemicals
J. B. FORD DIVISION
WYANDOTTE, MICHIGAN • LOS NIETOS, CALIFORNIA • ATLANTA, GEORGIA

CIRCLE 35 ON READER CARD

Chosen to protect your children

. . . a prime essential to all business construction

Chances are great that you pass a Gamewell fire alarm box on your way to work, because a vast majority of all municipal fire alarm systems are Gamewell systems!

For over 100 years Gamewell fire alarm boxes have stood as silent sentinels in thousands of communities. The lives and the property these systems have saved are testimony of their unerring reliability. Similar Gamewell interior fire alarm systems, with the same high standards and offering the same reliability, can be planned as part of complete plant and institutional fire protection. Safety is everybody's business . . . *our* profession.

Send for your Gamewell Flexalarm catalog with typical fire alarm installations, see how you can plan maximum protection at minimum cost. Write THE GAMEWELL COMPANY, 1371 Chestnut Street, Newton Upper Falls 64, Massachusetts. A Subsidiary of E. W. Bliss Company.

BLISS Gamewell®

FIRST... WHEN SECONDS COUNT

CIRCLE 36 ON READER CARD

in remembering their safety rules. The Toronto Safety Council and the *Toronto Telegram* drew up six rules based on the main causes of children's accidents. The rules were then printed on a pledge card which school children could take home to their parents.

The results for child pedestrian safety in Seattle were most gratifying. At the end of 1960, 55 of Seattle's 84 elementary schools were actively participating in the program and keeping the Elmer flags flying from their flag poles.

Pennsylvania Councils Form Federation

Pennsylvania has joined the growing list of states forming state federations of safety councils. Sam McKay, chairman, traffic safety committee, Greater Philadelphia chapter, NSC, is president, and Harry Verdier, executive director, Philadelphia chapter, is secretary.

The federation was formed to provide uniformity of effort and collective action in statewide safety matters and policies.

Findlay Replaces Kalberloh At Missouri Council

R. Dale Findlay has been named managing director of the Missouri Safety Council succeeding Ralph J. Kalberloh, who resigned.

Findlay has been active in civic and organization affairs in Jefferson City. He is an officer of the Junior Chamber of Commerce, director of the Jefferson City Chamber of Commerce, a member of the University of Missouri Alumni Association and the Missouri Life Underwriters Association. Findlay, a native of Jefferson City, served in the U.S. Army as a helicopter pilot.

He is a graduate of the University of Missouri with a B.S. in business administration.

Are You Planning A Seat Belt Survey?

The National Safety Council is interested in information on the installation and use of seat belts. If you are planning an installation-and-use survey in your area, we would be interested in learning your results.

This could be a project for the appropriate committee of your council.

Some suggestions we've heard in-

CIRCLE 37 ON READER CARD

K-LENS-M
BETTER VISION PRODUCTS
BIGGEST VALUE in the LENS CLEANING FIELD
Keep Safety in Sight with the Modern Liquid Method
FREE Sample—
Request 30-day Trial Offer
THE WILKINS CO.
Incorporated
Cortland 1, N.Y.
Lens Cleaning Cabinets • Lens Cleaner • Lens Tissue • Anti-Fogging Stations

SAFETY GLASS TROUBLES?

EYEGLASS HOLDER

® PAT. U.S.A. CANADA

Helps prevent slipping, sliding, falling off or accidental knocking off of personal or safety glasses. Relief from sore ears due to curved bows. Positive, comfortable retention. Adjustable tips will fit all types and sizes of temple ends. Adjustable head band will not interfere with hat or cap. Further information will be sent on request.

RETAILS $1.00 EACH

SERON MFG. CO., Barber Bldg., Joliet, Ill.

CIRCLE 38 ON READER CARD

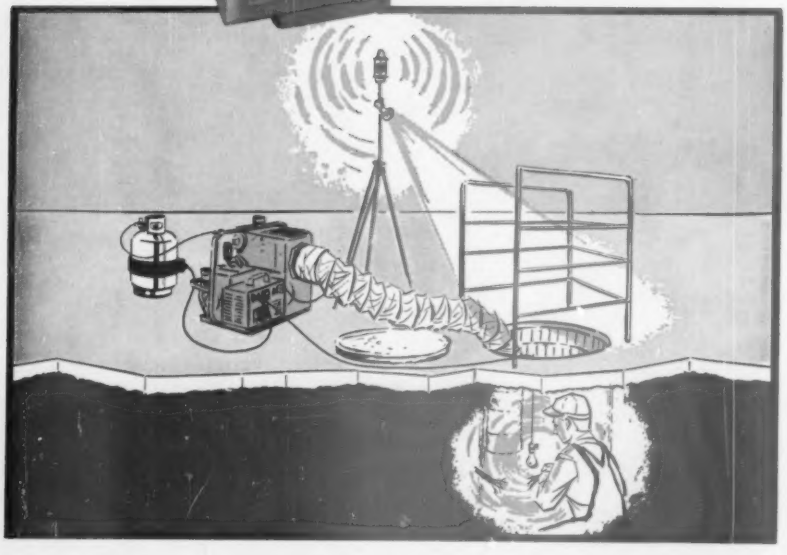
CIRCLE 18 ON READER CARD

NOW!

you get an

800 watt 115V-AC generator

on the new MoPeCo
Model PE-G 800
Ventilating Heater



There's power aplenty in the new MoPeCo generator to provide AC current for high level warning light, area floodlight, electric soldering iron, electric propane bottle warmer and illumination in the manhole area itself. MoPeCo's new model PE-G 800 combines the year round use of a propane operated ventilating heater with a V-belt driven AC generator of increased output. A constant supply of fresh safe forced air, heated fresh air when desired, ventilates the manhole. Four electrical outlets furnish a constant source of AC power—all in a single portable unit. High level flasher is new from MoPeCo, too, for additional safety in illuminating entire work area.

Write for new 4-color brochure showing details, principle of operation and MoPeCo accessories.

Write or Call
MoPeCo MORRISON-PELSUE CO.
2001 South Bannock Street • Denver 23, Colorado • RAce 2-2834

clude surveying employers about vehicles equipped with seat belts, and taking random man-on-the-street samples. If you are interested in a big project, you could make spot checks or a door-to-door canvass.

If you are interested in suggested survey questions, the NSC Field Service Department will be glad to furnish them.

New Manager for Springfield Council

Eldon D. Jones has been named manager of the Springfield-Greene County Safety Council (Missouri), replacing Don Bown.

Jones has been in industrial safety work for several years and for the last two years has served as a consulting safety engineer.

Utah Safety Council Calls Off-The-Job Conference

Governor George L. Clyde, Utah, and the Utah Safety Council recently held a statewide off-the-job safety conference. The governor urged the group of more than 40 business leaders to cooperate in eliminating the problem.

O. Preston Robinson, president, Utah Safety Council, told the group the safety council needs funds to provide an off-the-job program.

Changes Among Council Personnel

Russell Keith has been named director of the Summit County Safety Council of the Akron (Ohio) Chamber of Commerce, succeeding Earle R. Gardner.

Fred G. Patchen recently was elected president of the Long Beach (Calif.) Safety Council, succeeding William A. Salvin.

Byron L. Clark, director of industrial relations, AVCO Corp., Nashville Div., recently was elected president of the Nashville-Davidson County Citizens Safety Council.

Donald D. Nimmo, industrial relations director, Brown-Lipe-Chapin Div., General Motors Corp., has been chosen chairman of the Greater Syracuse Safety Council of the Syracuse (New York) Chamber of Commerce.

Lee Price, vice president of the Coca Cola Co., was elected president of the Atlanta Traffic and Safety Council.

Does Washington Mean Business?

— From page 21

posal, nor am I passing judgment on the relative merits of the two regulations. However, I suspect that it would be well for all to watch these developments closely for possible clues to future industrial safety regulation in Washington.

Industrial Safety

Mine safety is the stated object of P.L.87-300, which directs the secretary of the interior to make a two-year study and evaluation of the causes and prevention of injury, health hazards and other health and safety conditions in metallic and nonmetallic mines (other than coal and lignite mines). The secretary is directed to submit recommendations for an effective safety program. Among the topics to be studied in this project are the causes of injuries, the relative effectiveness of voluntary versus mandatory accident reporting, the comparative advantages of various forms of inspection, the effectiveness of safety education and training, and the adequacy of state mine-safety laws and their enforcement.

The Water Pollution Control Act amendments were signed into law as P.L.87-88, expanding the federal program and increasing the annual authorizations for federal grants to communities to $570 million over a seven-year period.

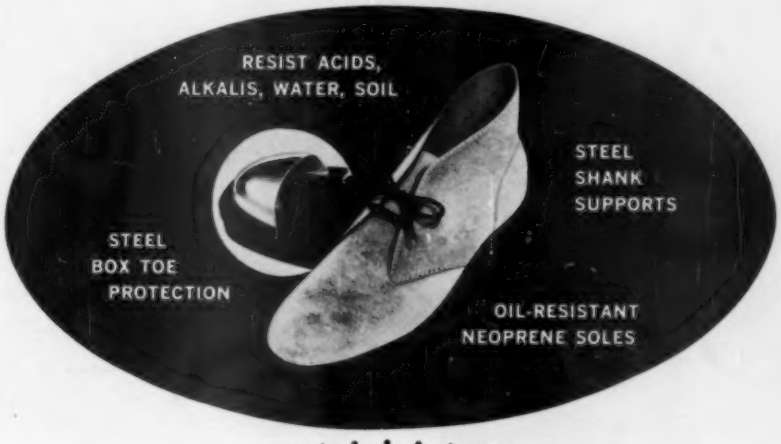
Atomic energy and its effects continued to be a matter of major safety concern to Washington. The President approved a memorandum of the Federal Radiation Council providing detailed recommendations and guidance for federal agencies in the conduct of their radiation protection activities, dealing among other matters with strontium-90. For the first time, the Atomic Energy Commission closed down an operating licensed reactor because of the demands of "public health, safety and interest." The cause in this instance was operation of the reactor without a licensed person at its controls. Also for the first time, a fatal accident occurred in the operation of an American nuclear reactor. The AEC as-

CIRCLE 41 ON READER CARD

MAKE SAFETY LOOK GOOD . . . WITH THE WORLD'S LIGHTEST SAFETY SHOES

CASUAL-STYLED! WEIGH FULL POUND LESS PER PAIR THAN ORDINARY SAFETY SHOES

New . . . safety shoes with wear-appeal for your men. Lightweight, to be less tiring. Good-looking . . . and just a swipe of a wire brush or ordinary sandpaper keeps them looking great. Comfortable and cooler, because the rugged pigskin breathes, doesn't trap air inside. In oxford and chukka styles. For the name of your nearest jobber, write to Haus of Krause, Rockford, Michigan.



HAUS OF KRAUSE
SAFETY SHOES

Industrial jobbers interested in acquiring a franchise, write to Haus of Krause, Rockford, Michigan.

CIRCLE 42 ON READER CARD

Safe ladders . . . Save lives!

(600)

Slipping ladders cause more accidents . . . and result in more injuries . . . than any other single hazard, according to a recent survey by the Wisconsin Industrial Commission. This disgraceful fact is all the more disturbing because there is absolutely no excuse for most of these accidents. The simple inexpensive installation of Safe-Hi ladder shoes is your guarantee against accidents . . . which of course mean man hours lost, work stoppage, compensation. Ladder shoes eliminate both need and expense of second worker holding base of ladder.

Shoe tread construction of both neoprene and fibrous material gives maximum protection against ladder slipping on any industrial surface whether wet or dry, soapy, greasy or slick. Straight ridge design crosses line of slippage and acts as a series of squeegees in scraping off foreign substances thus insuring a good grip on any surface. Added feature is a self-sharpening spike which can be readily positioned for use in ice, snow or gravel.

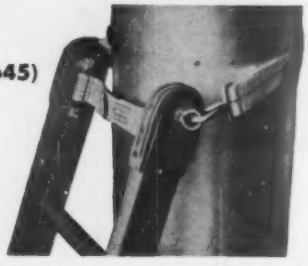
Safe-Hi Wall Grip (640)

The Safe-Hi wall grip holds the top of the ladder securely on all smooth walls. Prevents side slipping and helps to hold the bottom of the ladder.

Safe-Hi Pole Grip (632)

The Safe-Hi pole grip holds top of ladder on any pole, pipe or corner. Fits any ladder. Helps prevent ladder tipping.

(645)



Safe-Hi Ladder Lash

The Safe-Hi ladder lash is quickly attached to any ladder. Strap made from 2800 lb. tensile strength parachute webbing with forged steel snap. Lash features quick adjustment slide that gives positive hold on pole.

Complete information on any Safe-Hi Safety equipment, write for free catalog.

Safe-Hi Safety Equipment is made by

rose manufacturing co.

RO-12

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2700 W. BARBERRY PLACE • DENVER, COLORADO

sumed responsibility for the accident which, it admitted, could have been avoided had more effective procedures and corrective actions been undertaken earlier.

The AEC itself underwent several major internal reorganizations which dealt with its administrative structure for handling safety. In addition, the AEC adopted regulations providing for public participation in the review of safety considerations relating to AEC-owned power reactors installed at non-AEC sites as part of conventional electric utility systems.

The Supreme Court of the United States, by a vote of 7-2, upheld the AEC's authority to permit a private utility to construct a nuclear plant near a populous metropolitan area without AEC's first making a definitive finding of safety prior to construction. The court held that the law permitted the finding to be delayed until after the plant was constructed but before it went into operation. "What is up-to-date now," said the court, "may not, probably will not, be acceptable tomorrow. Problems which seem insuperable may be solved tomorrow, perhaps in the very process of construction itself."

On the other hand, AEC developed guides for the location of reactor sites which were designed to place nuclear reactors in more isolated areas, as a precaution against the effects of nuclear accidents. As a result – according to AEC reports to the Congress – preferred sites had been "found to be unsatisfactory from the standpoint of public hazards."

The past year saw a landmark step in nuclear energy regulations, the development of a program for, and the approval of, the first agreement to transfer some portion of the AEC's regulatory power to state governments, under a statute adopted in 1959. By the terms of the first agreement, Kentucky would assume responsibility for rule-making, licensing, inspection, and enforcement in the use of specified forms of nuclear materials. AEC must first, in such instances, promulgate a finding that the state program is adequate to protect the public health and safety.

The past year also witnessed the initiation of AFL-CIO's national in-

All balled up.

During a long hard day a safety suit gets some rough handling. And a tired workman isn't likely to care where he tosses it. Some suits can't stand up to this twisting and creasing and still do the job.

Safety clothing manufacturers and users are finding reflective fabrics can take all the flexing that comes their way if they're Aluminated—a new process by Thermo-Chem that *impregnates* the material with aluminum. Any fabric can be made highly reflective with added abrasion resistance.

Alumination doesn't crack, peel off, discolor. It won't lose its temperature reflecting ability. And it adds strength without excess weight.

Don't get balled up with reflective suits, gloves, welding blankets and shields that can't stand up to the daily grind. Try protective equipment made of materials given the Alumination process by Thermo-Chem.

They *can* take it.

Thermo-Chem Corporation
5 Noeland Avenue, Penndel, Pa.

THERMO CHEM

CIRCLE 43 ON READER CARD

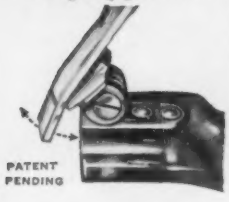
CIRCLE 44 ON READER CARD

imitated imitated imitated imitated imitated imitated imitated imitated

but not duplicated

Only Fendall Safety Glasses offer this combination of features

Adjustable temple joints



PATENT PENDING

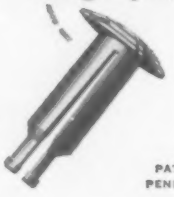
Front end of temple is designed so it can be adjusted for perfect temple fitting on all faces. For a narrow face, bend it in; for a wide face, bend it out; permits temple adjustment to provide exact amount of side tension to prevent slipppage.

Multi-fit bridge

PATENTED AND PATENT PENDING

Fendall's patented Multi-Fit Bridge automatically fits 9 out of 10. Self-adapting to wearer's face, no adjusting. You can fit practically every worker with this one bridge size. Reduces inventory. Unequalled fitting ease and wearing comfort.

Lok-tite Hinge pins



PATENT PENDING

This exclusive Fendall feature eliminates the trouble and annoyance caused by loose and lost temple screws. Fendall's Lok-Tite Hinge Pins snap in easily, lock in position, cannot fall out, yet they are simple to remove, if necessary.

NEW LENS SHAPE provides closer orbital fit, wider vision, increased safety.

SPECIAL SKULL TEMPLES of nickel silver, with [illegible] plastic paddles. Easily adjusted for perfect fit, no slippage.

COLORED FRAMES—Available in flesh, bronze, cordovan and green.

SPECIAL INSULATION on cable-type temples. Will not loosen. Perspiration-resistant.

SMART MODERN STYLING—Sturdy and comfortable, without the bulky look and feel of "goggles."

Choice of acetate or metal frames, skull temples, cable temples, sideshields, etc.

Send for complete details now!

FENDALL PRODUCTS FEND ALL HAZARDS

FENDALL COMPANY

2222 DIVERSEY BLVD., CHICAGO 47, ILLINOIS

Distributed in Canada by Levitt-Safety Limited

stitutes in safety training, designed to train union leaders who in turn will prepare others. The first two such institutes have already been held.

Aviation Safety

The major legislative development in aviation safety was the amendment of the Federal Airport Act, P.L. 87-255, to authorize federal matching grants in the amount of $75 million a year for three years. These funds may be used in airport construction only as it is directly related to the safety of persons at the airport. The federal aviation administrator is authorized to withhold project approval unless landing aids determined necessary for safety are included. The ratio of federal grants for such purposes was raised from 50 per cent to 75 per cent. Control towers and other facilities to promote safety may also be constructed by the federal government. In signing the bill, the President said the airport construction program was "vital" to aviation safety.

The House of Representatives voted $150,000 to its own Committee on Interstate and Foreign Commerce for a study of the problems involved in, and measures to minimize, aircraft noise nuisances and hazards to persons and property on the ground. Specific subjects of study include aircraft and engine design, and the extent of federal and local authority to prescribe safety regulations applicable to any airport operation or development including controls on the operation of aircraft. In addition, Congressional committees held frequent hearings on aircraft accidents and on safety programs to avoid recurrences.

The Federal Aviation Agency established, for the first time, national standards for aircraft traffic patterns in the vicinity of all controlled airports, to enhance air safety and avoid near collisions. FAA broadened its areas of airspace control, and expanded its requirements for the installation of flight recorders to keep records of flight patterns in the event of mishaps. It proposed to require all large aircraft to be equipped with distance measuring equipment which advises continuously of distances to ground stations. And among a wide variety of other tech-

In Mercury Control Center room at Cape Canaveral, designed under supervision of Bell Telephone Laboratories, NASA flight controllers make all vital decisions concerning a Mercury mission. Large map displays equipment status at tracking and communications sites, preferred recovery areas, the position of the capsule and its "immediate impact point."

Bell System manages building of global communications network for Mercury spacecraft

On September 13, National Aeronautics and Space Administration first achieved the orbital flight of an unmanned Mercury spacecraft, using a new world-wide communications and tracking network.

Soon, will come manned orbital flight.

The Bell System has played a large role in the development of this scientific project.

Western Electric headed an industrial team, on which Bell Telephone Laboratories also played an important part, in building the world-wide network of tracking and monitoring stations.

This 60,000-mile communications route, the bulk of which is teletypewriter and telephone circuits, ties together 17 tracking and instrumentation sites with the Goddard Space Flight Center in Greenbelt, Md., and the Cape Canaveral Mercury Control Center.

As a Mercury capsule orbits over the area covered by each site, the far-reaching communications network immediately begins feeding information received from the capsule with clockwork precision. So fast and efficient is this communications system, it takes only seconds for data to start flowing from any site through Goddard to Canaveral!

The Bell System is proud to have contributed its creativity and resources to this vital project and to the further advancement of global communications.

BELL TELEPHONE SYSTEM

AMERICAN TEL. & TEL. CO. / WESTERN ELECTRIC CO. / BELL TELEPHONE LABORATORIES / 21 OPERATING COMPANIES

CIRCLE 27 ON READER CARD

Killing blow! It takes only minutes for fire to burn your business to a crisp. Guard against the danger of a crippling flammable-liquid fire (as in the spray booth above) with a *fully automatic* Kidde carbon dioxide extinguishing system. Approved by U.L. and F.M., Kidde systems smother flammable-liquid and electrical fires in seconds, leave no mess, turn off power and sound alarms... get you back in production fast. Kidde's 35 years of experience can help you protect any hazard. Write Kidde today and find out how.

Kidde

Industrial and Marine Division
Walter Kidde & Company, Inc.
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Walter Kidde & Company of Canada Ltd.
Montreal — Toronto — Vancouver

nical requirements promulgated in the interest of safety, FAA appointed a consultant group to develop the most effective procedural methods for the adoption and enforcement of safety rules and regulations. On the judicial side, the federal courts sustained FAA's order establishing 60 years as the maximum age for airline pilots.

Marine Safety

The Senate ratified a treaty amendment to the International Load Line Convention dealing with the point beyond which a vessel may not safely be submerged. This ship design requirement is prospective, and applies only to newly constructed vessels.

As a result of a major [illegible]p-construction fire, the Navy ordered new precautions at its shipyards.

The U.S. Maritime Administration declared the *N. S. Savannah*, the first western nuclear powered merchant ship, to be safe for entry into any port, without danger to the local population. And the AEC authorized fueling, start-up and operation of the ship's nuclear reactor for test and demonstration purposes and for initial sea trials of the vessel. After completion of these initial sea trials, there will be a review of the test operations and a further public hearing.

The Federal Trade Commission issued trade practice rules for the pleasure boat industry, which forbid misleading or deceptive representations with respect to pleasure boat safety, passenger capacity, and horsepower potential.

Commercial Transportation

Congress authorized the Interstate Commerce Commission to delegate to employee boards the authority to review safety cases, with appeal to the commission itself, P.L.87-247.

The ICC broadened its investigation of rail-highway grade-crossing accidents so as to include all accidents at railroad-highway crossings involving trains and highway motor vehicles, regardless of the nature of the commodities being transported. The commission is seeking to determine the adequacy of its present safety regulations in reducing and possibly eliminating such accidents

Jackson dielectric plastic 'Life Guard' cap. No metal parts in four molded-in colors.

Jackson fiber glass safety cap. Tough, resilient. In eight molded-in colors.

Jackson aluminum 'Alumi-cap'. Light weight safety. Silver and seven enamel colors.

Fiber glass narrow shell welding helmet mounts on any of three caps, has any of three lens holders.

Fiber glass or vulcanized fiber straight shell helmet mounts on any of three caps, has any of three lens holders.

Any of four goggle styles mount on any of three caps. For grinding or welding (four lens shades).

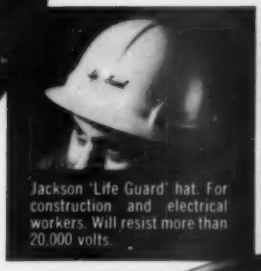
One-lens Unigoggle mounts on any of three caps. 2" x 4¼" lenses in any shade. For gas welding and cutting.

Face shields in two plastics, three thicknesses, and in clear or three shades of green, mount to any of three hats.

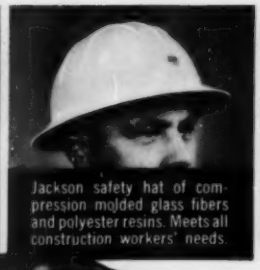
Fiber glass or vulcanized fiber curved shell helmet mounts on any of three caps, has any of three lens holders. All fiber glass combination with fixed plastic lens holder is shown (Model SCH-1P).

Metal bound face shields in two plastics, four thicknesses, three depths, and clear or three shades of green, mount to any of three caps.

Face shield of 24 mesh wire screen mounts to any of the three caps.



Jackson 'Life Guard' hat. For construction and electrical workers. Will resist more than 20,000 volts.



Jackson safety hat of compression molded glass fibers and polyester resins. Meets all construction workers' needs.

Jackson 'Alumihat'. Heat treated aluminum alloy. Polyethylene headgear adjusts to hat sizes quickly and easily.

SAFETY HATS & CAPS... PLUS

eye and face protection for all kinds of workers. Over a thousand varieties of hats, caps, shields, goggles, and their combinations. Ask about Jackson today.

Fiber visor with plastic lens holder (2" x 4¼" lens, in any shade) mounts to any of three hats.

Face shield of 24 mesh wire screen mounts to any of the three hats.

A variety of face shields mount to all Jackson hats and caps. A 15½" x 9" clear plastic visor is shown mounted to an Alumicap (Model SC-5, with F-1, 34-4).

Face shields in two plastics, four thicknesses, three depths, and clear or three shades of green, mount to any of three caps.

Six different winter liners are made. They fit all caps and hats. Elastic chin straps are available, too.

Sold Everywhere by Better Welding Supply Distributors

Jackson Products

AIR REDUCTION SALES CO., A DIVISION OF AIR REDUCTION CO., INC.

5523 Nine Mile Road, Warren, Michigan

CIRCLE 30 ON READER CARD

in the future and to determine the need for further legislation to accomplish this end.

Transportation of explosives or radioactive poisons came under detailed ICC regulation, and this past year saw the operative date of an ICC regulation requiring buses and trucks to have equipment for simultaneous flashing of front and rear-turn signals in emergencies.

The ICC also announced that its four-year roadside truck accident inspection program indicated the need for better maintenance practices. The commission also conducted an extensive road safety inspection of motor carriers transporting migrant agricultural workers.

Traffic Safety

Congress has shown tremendous interest and has taken substantial action in traffic safety. Among its new approaches in this field is a major preoccupation with mass transportation and with its necessary relationship to vehicular traffic and traffic arteries. A housing law was enacted, P.L.87-70, which makes three authorizations germane to traffic safety: 1. $25 million of urban renewal funds were made available for federal grants to local agencies, to cover two thirds of the cost of pilot mass-transportation projects; 2. $55 million was authorized for mass transportation studies and surveys by states and localities; and 3. $50 million was approved for a short-term program of low-interest loans to metropolitan agencies for construction and equipment of mass-transportation systems.

The Senate committee's report called attention to testimony "that there is an acute and increasing need for the federal government to take the lead in coordinating and in offering financial assistance to localities" to cope with mass transportation, parking, and traffic jams. The President had urged Congress to act in this area "as part of the over-all planning" for metropolitan communities. The administration's plans for the future perhaps may take shape from the President's statement to the Congress that "the problem of mass metropolitan transportation is not merely that of railroads, but of highways and buses, of housing and even of helicopters."

The President directed the secretary of commerce and the housing and home finance administrator "to undertake an immediate and extensive study of urban transportation problems and the proper role of the federal government in their solution." The secretary of commerce announced that this study would include the development of adequate highways, mass transportation, bus terminals, and parking facilities.

Congress also passed, and the President approved, the Federal-Aid Highway Act of 1961, P.L.87-61, to provide for the completion of the interstate highway system as originally authorized in 1956, by means of a firm program of annual grant authorizations to the states. This law also included a continuation of the anti-billboard provision. The highway legislation was justified in part, both by the President and the Congress, as making a "vital contribution" to safety.

Almost before the Driver Registry law of last year was put into opera-

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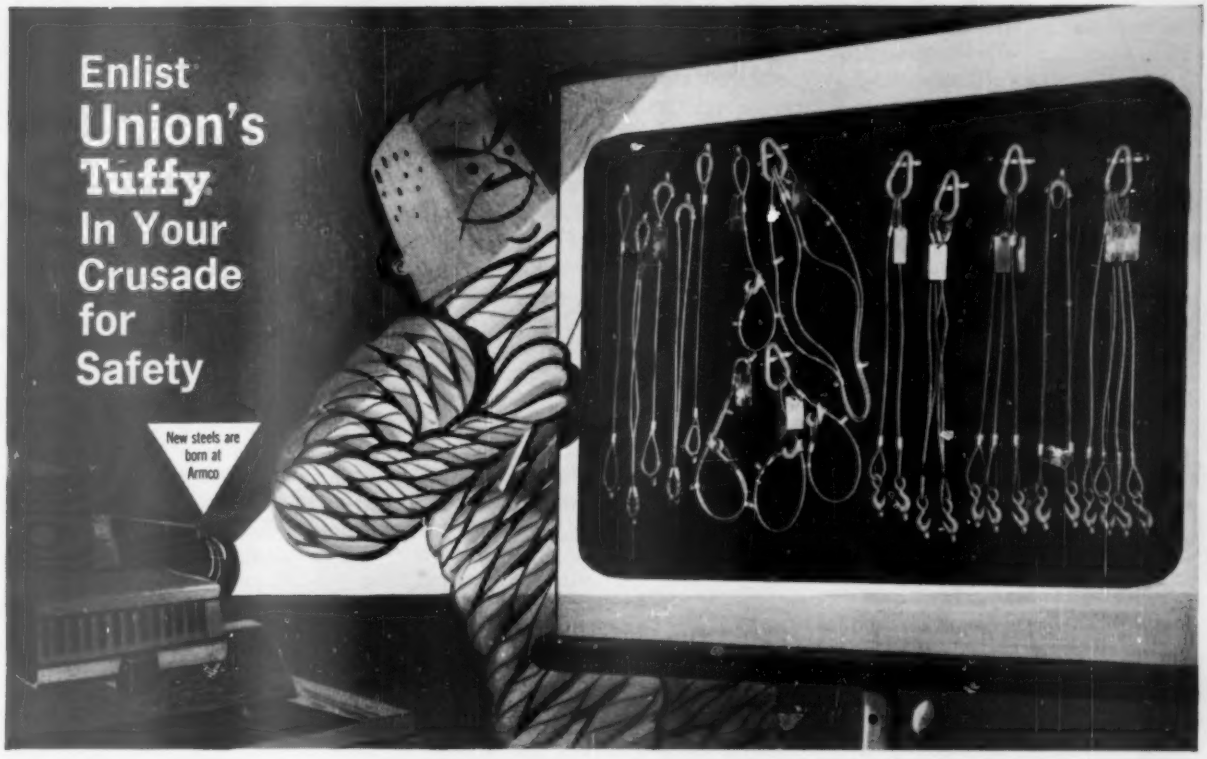

"Accidents on the job cost industry more than $4 billion a year," reports the National Safety Council. 230 million man-days were lost, nearly 2 million disabling injuries were suffered in 1959. As rough as these figures look, they represent progress. The accident rate has been cut in half since the twentieth century started.

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tion this year to list license revocations, Congress broadened its applicability to include license suspensions, thereby enabling 13 additional states to participate in the registry program, P.L.87-359. And another proposed amendment to the same law, H.R.9443, introduced by Congressman Roberts just before the Congress adjourned, would require (on penalty up to $500 fine or imprisonment for a year) that all drivers of passenger-transporting motor vehicles on highways in interstate commerce possess driver's or chauffeur's licenses issued under a state statute which the secretary of commerce has determined to be substantially in accordance with the licensing provisions of the Uniform Vehicle Code of the National Committee on Uniform Traffic Laws and Ordinances.

Air pollution, particularly as related to auto exhausts, continued to be a "hot" subject during the last Congressional session. Congress itself increased the appropriation to the U.S. Public Health Service, in the general area of air pollution control, by half a million dollars in excess of what the President's budget asked for. The allotted sum of $8,800,000 represents an increase of some one million over last year's appropriation for air pollution control. The Congressional committee's direction was that "the increase is primarily for research in connection with auto exhaust, which is generally recognized as the largest single problem in the area of air pollution." The committee said that "we need to find out much more about the most significant factors in health and how pollution can be controlled." This action took place against a backdrop of presidential urging of federal leadership in this area, and an advisory committee's recommendation that the country's financial efforts for air pollution control should reach $32 million by 1968, with the federal government assuming 40 per cent of this cost.

Another air pollution interest in Washington was the blow-by device for the control of automotive exhausts. Congressman Fogarty, chairmain of an important appropriation subcommittee in the House, accused the auto industry of "dragging its feet in the matter of factory installation" of such devices. He, Chairman Harris of the House Committee on Interstate and Foreign Commerce, and Senator Neuberger, threatened legislative compulsion for such installations if the industry did not act voluntarily to that end. And the Kennedy administration, through its secretary of health, education and welfare, issued an ultimatum to the automobile industry to provide such blow-by devices as standard equipment for all cars by the 1964 model or face mandatory legislation. The federal government itself directed that all cars bought for its own use, beginning with the 1962 model, must be equipped with such a device, as well as with anchors for seat belts in both the front and rear seats.

In addition, the Roberts Committee on Health and Safety conducted hearings on safety-related proposals: H.R.2446, to provide that hydraulic brake fluid meet standards established by the federal government; H.R.903, to require certain safety devices on motor vehicles; and H.R.1341, to require federal

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passenger vehicles to comply with certain federally-established standards. The House Rules Committee held hearings on H.R. 58, to authorize the Committee on Interstate and Foreign Commerce to investigate and study safety design of motor vehicles.

President Kennedy has also acted on traffic safety. He reconfirmed the President's Committee on Traffic Safety, with largely new appointments, increased its membership from 12 to 18, added representation from state and local governments, and made the secretaries of commerce, of labor, and of health, education and welfare *ex officio* members of the committee. However, he has not activated the Interdepartmental Highway Safety Board set up by President Eisenhower in the closing days of the last administration. The President's committee updated the action program and embarked on an effort to encourage industrial and commercial promotion of off-the-job programs of traffic safety.

The Bureau of Public Roads gave its official blessing to national standards for traffic signs, signals and markings, by requiring compliance in the construction of federally-aided highways. And the secretary of commerce promised "strong effort" to obtain uniformity in this area. The secretary also announced that his department is studying the feasibility of electronic control of highway traffic under which vehicles would be automatically controlled without driver assistance. The Department of Defense issued regulations providing that installation commanders are responsible for administering effective driver-training programs for installation personnel, and specifying that the attendance of "problem drivers" may be made mandatory.

Public Safety

P.L. 87-319 authorizes the President to issue an annual proclamation of National Poison Prevention Week, in March, in order to alert the nation to the dangers of accidental poisoning and to take preventive measures. P.L. 87-19 extends the time previously set for safety clearance on food additives.

The Food and Drug Administration issued definitions and procedural and interpretive regulations under the Federal Hazardous Substances Labeling Act, including testing procedures, exemptions, and labeling requirements, and also suspended until early next year the applicability of certain of its provisions in order to give the government time to consider public comments made on the proposed regulations. Regulations under the Color Additives Act, which was enacted in 1960, were issued temporarily to authorize 11 colors principally used for lipsticks, subject to a two-and-one-half-year testing period within which to present support for permanent approval.

The White House Conference on Aging produced conclusions on various safety aspects dealing with older persons, including good lighting; removal of fire and fall hazards; installation of preventive safety features; and the elimination of unnecessary stairs and level changes, scatter rugs, and highly polished

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floors. In addition, adjustments of zoning laws and building codes were proposed "to guarantee health and safety standards" for the nation's senior citizens.

Public Health Service

A major safety development in Washington during the past year was the expanding role of the United States Public Health Service, and its pervasive efforts to develop a pattern for its accident-prevention functions. A division of accident prevention was created, shortly after receipt of an expansive report from an advisory committee, which could well serve as a guide for the new division's future program. The secretary of health, education and welfare invited Congressional attention to the large and untapped potentialities of his department, and especially the Public Health Service, in coping with accident prevention problems, and all but called for the creation of a national center to deal with accidents.

The Congress appropriated major increases in funds to the USPHS for its accident prevention, safety, and allied programs. An increase of almost three-quarters of a million dollars over the current budget for accident prevention was voted, for a total of $3,618,000. The House committee commented: "This activity has received far too little attention in the past in view of the gravity of the problem," and the Senate committee's injunction was that the extra funds be used for "greater emphasis on prevention of accidents and development of methods for treating accident victims" as well as for the training and assignment of accident prevention specialists to the states. Attention was called earlier to the $8,800,000 appropriation for air pollution control, which represents an increase of one million dollars over the previous budget. And the appropriation of over $10.5 million for radiological health programs is an increase of almost $4 million over the last appropriation. Congress also appropriated $50 million to the USPHS for its water pollution control program.

In connection with this year's appropriations to the USPHS, it is significant that the President's budget requests for accident prevention and safety were raised, rather than cut, by the Congress. This is uncommon in Washington. The moral is obvious.

Storm Warnings

In past years I have attempted to hoist some storm warnings. Although accident rates have gone down in practically every category of accidents, and despite the demonstrable improvement in accident-prevention results, the simple fact is that Washington is not satisfied.

The enormous pressure on Congress "to get something done" explains, in part, its dissatisfaction with the current state of affairs. It is my personal belief that official Washington is slowly coming to the view stated by Congressman Roberts during a safety hearing this past year: "If the states fail to act, the federal government has some responsibility to protect interstate commerce from hazards . . ." It is significant that a former state governor who is now the secretary of health, education and welfare, in testifying on motor safety features before the Roberts Committee, said: "My prediction is that when Detroit knows that Washington means business, through the work of this committee, much of this will never have to get into law."

These selected examples are merely part of the growing evidence that *Washington means business*, to use Secretary Ribicoff's words. And there is more to come if, as Congressman Roberts warned, the states themselves fail to act, and if industry and voluntary safety efforts fail to produce that degree of safety and accident prevention which the American people demand.

The storm signals are up! The American people, as well as their representatives in Washington, mean business. This past year's safety developments in Washington leave several burning questions in my mind, as the key to what may occur during the next few years:

Does the voluntary safety movement mean business? Does it have what it takes to continue to be accepted by the American people as its principal agent in safety? Or, will the American people, out of frustration with the safety professionals' alleged inability to produce safety, demand that Washington take over the safety job as federal government

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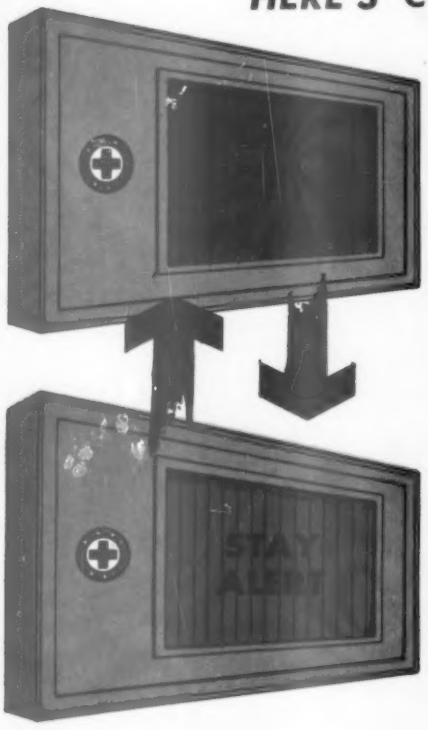

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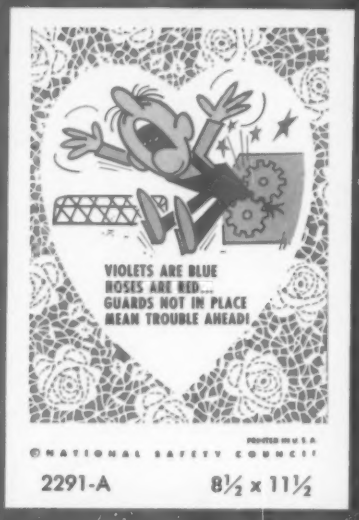

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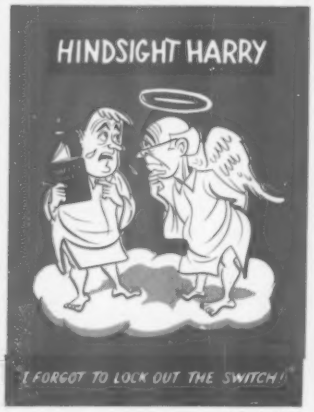

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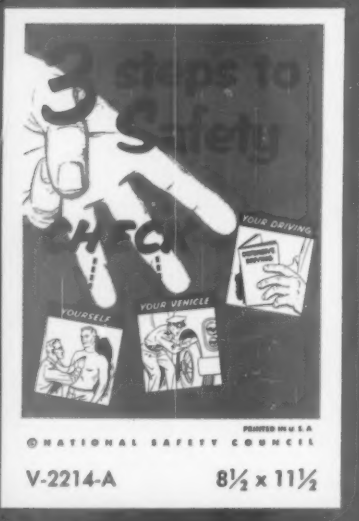

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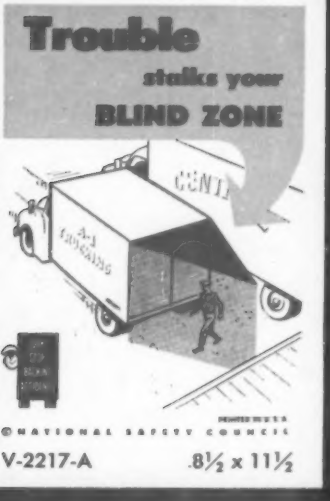

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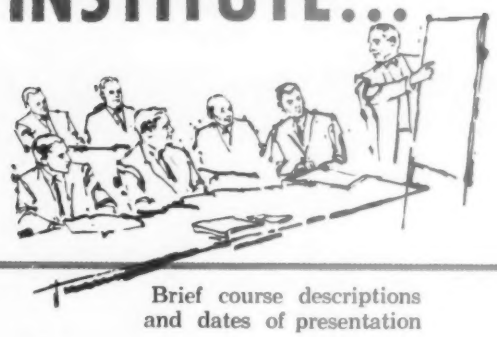

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Dec. 10-12, New Orleans
Louisiana Safety Conference (Roosevelt Hotel). Dudley Andry, conference coordinator, 823 Perdido St., New Orleans 12, La.

Dec. 13-15, New York City
American Management Association Seminar, "Organization and Management of the Company's Industrial Sanitation Program" (Hotel Astor). AMA, Inc., 1515 Broadway, New York 36.

Jan. 18-19, 1962, Milwaukee, Wis.
Annual Mid-Winter Safety Conference and Exposition (Hotel Schroeder). R. W. Gillette, executive director, Wisconsin Council of Safety, Inc., 119 E. Washington Ave., Madison 3, Wis.

Jan. 22-25, 1962, Philadelphia
Thirteenth Annual Plant engineering and Maintenance Conference and Show (Convention Hall). Clapp and Poliak, Inc., 341 Madison Ave., New York 17.

Feb. 7, 1962, Dayton, Ohio
Tenth Annual Miami Valley Safety Conference (Biltmore Hotel). Fred H. Lewis, manager, Dayton Safety Council, Biltmore Hotel, Dayton 2, Ohio.

Feb. 8-9, 1962, San Francisco
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dinator, 455 Golden Gate Ave., San Francisco 2, Calif.

Feb. 19-22, 1962, East Lansing, Mich.
Eleventh Annual Industrial Ventilation Conference (Kellogg Center for Continuing Education). Michigan State University, East Lansing, Mich.

March 4-6, 1962, Little Rock, Ark.
Southern Safety Conference and Exposition (Marion Hotel). W. L. Groth, executive director, P.O. Box 8927, Richmond 25, Va.

March 6-8, 1962, Washington, D.C.
Biennial meeting of the President's Conference on Occupational Safety. George T. Brown, deputy director, Bureau of Labor Standards, U.S. Department of Labor, Washington 25.

March 7-8, 1962, Philadelphia
Twenty-eighth Annual Regional Safety and Fire Conference and Exhibit (Bellevue-Stratford Hotel). Harry H. Verdier, executive director, Safety Council, Chamber of Commerce of Greater Philadelphia, 121 S. Broad St., Philadelphia 7.

March 20-21, 1962, Fort Wayne, Ind.
Northeastern Indiana Safety Conference. Ivan A. Martin, manager, Safety Council, Chamber of Commerce Bldg., Fort Wayne, Ind.

March 20-22, 1962, Cleveland, Ohio
National Health Forum (Pick-Carter Hotel). Arthur J. Grimes, forum coordinator, National Health Council, 1790 Broadway, New York 19, N.Y.

March 25-28, 1962, Dallas
Annual Texas Safety Conference (Adolphus Hotel). J. O. Musick, general manager, Texas Safety Association, 830 Littlefield Bldg., Austin, Tex.

March 26-28, 1962, Meridian, Miss.
Annual Southern Pulp & Paper Safety Association Meeting (Hotel Lamar). C. C. MacPike, secretary, P.O. Box 1591, Pensacola, Fla.

March 27-29, 1962, Pittsburgh, Pa.
Thirty-seventh Annual Western Pennsylvania Safety Engineering Conference and Exhibit (Pittsburgh Hilton). Harry H. Brainerd, Western Pennsylvania Safety Council, 305 First Federal Bldg., Pittsburgh 19.

March 31, 1962, New Haven, Conn.
Governor's Conference on Traffic Safety (Yale University). James K. Williams, executive director, Connecticut Safety Commission, State Office Building, Hartford 15, Conn.

April 2-3, 1962, Boston, Mass.
Forty-first Annual Massachusetts Safety Conference and Exhibit (Statler Hilton). Bert Harmon, Massachusetts Safety Council, 54 Devonshire St., Boston 9.

April 4-6, 1962, St. Louis
Central States Safety Conference (Hotel Chase). William F. Yorger, managing director, Safety Council of Greater St. Louis, 722 Chestnut St., St. Louis 1, Mo.

April 9-13, 1962, New York City
Greater New York Safety Council Convention and Exposition (Statler Hilton Hotel). Robert J. O'Donnell, executive director, Greater New York Safety Council Inc., 60 E. 42nd St., New York 17.

April 10-11, 1962, Oakland, Calif.
Tenth Annual Northern California Safety Congress (Hotel Claremont). Clinton W. Dreyer, Eastbay Chapter, NSC, 1322 Webster St., Oakland 12.

April 10-12, 1962, Chicago
American Industrial Health Conference (Pick-Congress Hotel). Clark D. Bridges, managing director, 55 E. Washington St., Chicago 2.

April 11-13, 1962, Gainesville, Fla.
Ninth Annual Conference on Accident Prevention Engineering (University of Florida). Prof. Donald B. Wilcox, conference coordinator, University of Florida, Gainesville.

April 16-17, 1962, Toronto
I.A.P.A. Annual Conference and Exhibition of Industrial Safety Equipment (Royal York Hotel). R.G.D. Anderson, general manager, 90 Harbour St., Toronto 1, Ontario.

April 17-19, 1962, Columbus, Ohio
Thirty-second All-Ohio Safety Congress and Exhibit (Deshler-Hilton Hotel; Neil House). Arthur W. Moon, congress manager, Division of Safety and Hygiene, Industrial Commission of Ohio, 700 W. Third Ave., Columbus 12, Ohio.

April 17-19, 1962, Los Angeles
Ninth Annual Western Safety

Congress and Exhibits (Ambassador Hotel). Joseph M. Kaplan, manager, Greater Los Angeles Chapter, NSC, 3388 W. 8th, Los Angeles 5.

April 25-26, 1962, Indianapolis, Ind.
Fifteenth Central Indiana Safety Conference and Exhibit (Columbia Club). Jack Gunnell, director, Safety Council, Indianapolis Chamber of Commerce, 320 N. Meridian St., Indianapolis 4.

April 25-27, 1962, Charleston, W.Va.
Twenty-eighth Annual West Virginia Statewide Safety Conference (Daniel Boone Hotel). Charles Hopkins, 806 Nelson Bldg., Charleston, W.Va.

April 25-29, 1962, San Francisco
Western Space Age Industries & Engineering Exposition Conferences. Lykke-Wilkin & Associates, exposition managers, 681 Market St., San Francisco 5.

May 1-3, 1962, Lansing, Mich.
Thirty-second Annual Michigan Safety Congress (Civic Center). R. T. Daniels, chairman, exhibits committee, Fisher Body Division, G.M. Corp., 30001 Van Dyke, Warren, Mich.

May 7-9, 1962, Bethlehem, Pa.
Thirty-Fifth Annual Eastern Pennsylvania Safety Conference (Hotel Bethlehem). Harold A. Seward, secretary-treasurer, Lehigh Valley Safety Council, 602 E. Third St., Bethlehem, Pa.

May 7-11, 1962, Detroit, Mich.
Twenty-ninth International Foundry Congress and Exposition (Cobo Hall). American Foundrymen's Society, Golf and Wolf Rds. Des Plaines, Ill.

May 13-17, 1962, Washington, D.C.
American Industrial Hygiene Association Conference (Sheraton Park Hotel). George D. Clayton, executive secretary, AIHA, 14125 Prevost, Detroit 27, Mich.

May 15-16, 1962, Louisville, Ky.
Seventeenth Annual Conference of Louisville Safety Council (Kentucky Hotel). Capt. Estel Hack, Louisville Safety Council, 214 Speed Bldg., Louisville.

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CIRCLE 60 ON READER CARD

Voice

– From page 2

you gave to the Industrial Safety Equipment Association in the October issue. To make certain that all the members were aware of the articles, I announced it at the Annual Meeting held on Sunday evening, October 15th, at the National Safety Congress.

Over 130 members were present at this meeting – the largest turnout in the history of the association.

Congratulations on the new look the NEWS has taken on over the past year. The October issue in our estimation is the finest yet.

– GEORGE ANDREWS
Publicity Chairman
Industrial Safety
Equipment Association

Electricity article Was "best ever"

INDIANAPOLIS, IND. In the September, 1961 issue of NATIONAL SAFETY NEWS is an article entitled "Electricity: Good and Faithful Servant" by Prof. Charles Dalziel. I believe this is the best written article on the hazards of electric shock ever published.

– G. R. GUTHRIE
Chief Electrical Engineer
Indianapolis Power & Light Co.

Hole in his stocking?

ALPINOPOLIS, BRAZIL. It certainly will make a big splash when Fireman in "Headstart On Lifesaving" hits the water with those big shoes on! Hole or no hole in stocking next time let him kick them off before he jumps into the lake.

Or is he using frogman's shoe wear?

– STEEN M. SCHIELLERUP
Superintendent – Safety Department
Furnas Dam Project
Companhia Anglo-Brasileira de Construcoes

The fireman did not intend to swim, but to stand on the bottom and give mouth-to-mouth resuscitation. He didn't want to spare the few seconds it would take to remove his shoes.

Wants more "Fire Tips"

NEW ORLEANS, LA. I was much impressed by your article in the NATIONAL SAFETY NEWS entitled "Fire Tips for the Safety Man."

This is an excellent article. I feel that more of this type of article should be published . . . maybe we can pass on some information that will prevent fires and save lives.

– MILTON J. HATTIER
Director of Safety
Wesson Division
Hunt Foods and Industries, Inc.

Hearing protection

SAN FRANCISCO. Difficulties in selling ear protection were discussed in "Hearing Protection, Whose Failure?"

I was a professional aviator and navigator of large aircraft. I was also an audiophile, and capable of hearing clearly sounds up to 15 kc after fifteen years of association with various planes. Then we got

a type that made a peculiar snarling noise, and a combination of this with a rumbling thunder when you were inside it between the engines.

Shortly I found I had trouble understanding normal speech if there was a background noise – the words had no corners to identify them, because the sibilants like s, t, f, th, were missing. I went to the doctor, who said I had a marked hearing loss at 8 kc and was deaf above that. Howcum? Oh, getting a little older, and you might try these ear plugs.

I tried them. They helped the sound; I could understand more clearly in the cockpit than ever before, and they hurt my ears, especially while asleep in off watches. I got to wearing them less and less.

A later audiogram showed more loss, but not so much. . . . Well, (said he) maybe you've leveled off and won't lose any more, and maybe it's the plugs. Then he fitted a pair to me, but I didn't wear them very much: they were uncomfortable. Then a flight physical examination . . . I have a 75 per cent loss above 4 kc and 95 per cent above 6 kc. They let me fly a LMD (Large Mahogany Desk) but nothing else; they say it will never get any better and may get worse; I can hardly hear my wife's (high pitched) best friend, and the flight pay I will *not* receive over the rest of my predictable flying career comes to over $60,000 which I would gladly give up just to fly again. Without it I can't afford to rent a plane for an hour a month.

And who do you think wears plugs when the birds sing too loudly? Oh yes, they fit now, but aren't really comfortable, and I prefer muffs when I can borrow them – they cost too much for me nowadays.

– F. C. WARE
N.A.S. Navy 128

Impressed by Grinding article

PHILADELPHIA, PA. I was very impressed by the article "Who's Responsible for Safe Grinding" since this is one of our continuing problems.

– C. E. MERRIS
Supervisor, Accident Prevention
Westinghouse Electric Corp.

CIRCLE 61 ON READER CARD

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METAGARD

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RESULT–
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Alpenco Metagards are playing a continuing role in avoiding injuries to the metatarsal area of the foot. Supplements the protection of steel toe shoes. Attaches under the lace to avoid tripping hazards or the uncertainties of other means of affixing to the shoe. Can't work loose or come off. Flexible stainless steel adjusts to all widths avoiding details of sizes.
It pays to equip workmen with this inexpensive device.. For use by all workers exposed to the hazard of foot injuries. Write for Bulletin AM-961.

PHANTOM VIEW

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CIRCLE 64 ON READER CARD

Handling Electricity

— From page 29

tension cord at any one of a number of outlets. Made up of safety tested components, it is wired in a factory or specializing assembly shop. This contrasts with the fact that less than 20 years ago, the usual extension cord was the product of makeshift components assembled by a handyman who might have little or no skill in making electrical connections. The only criterion of the device thus assembled was that the bulb lighted.

Develop Safe Working Practices

There are several things that distinguish safe electrical practices from safe industrial practices. In the first place, electricity is an unseen force or form of energy. Most people have become accustomed to it to the extent of taking it for granted. They have little or positively no conception of the basic fundamentals of electric shock circuits and do not realize that the human body may, under certain circumstances, become a conductor. They fail to recognize the significance of environmental factors such as plumbing, building steel, conductive flooring, or other media that might constitute part of an electric shock path. Even trained personnel have been known to forget these fundamental truths.

Secondly, there is a prevailing attitude that once an electrical system has been installed in a building, office, or plant, it does not require any maintenance. This is a fallacy. During the process of wear, considerable hazard may develop in an electric device or system without any failure on the part of the system or device, as far as the operation is concerned. Quite often, a device or system that was safe the day of installation will deteriorate over a period of time without the effects of deterioration being recognized.

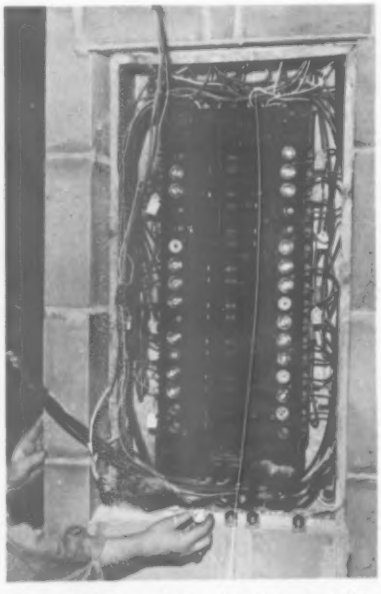
Unfortunately, few industrial plants have exhaustive preventive maintenance programs that require periodic inspection of electrical cords, portable tools, or fixed electrical equipment. The criterion seems to be that as long as the device can be operated, it's safe.

Because of the peculiar nature of electrical energy, most industrial concerns relegate the maintenance to a group of specialists in their maintenance departments. In most instances, this group is heavily loaded with work involving changes of system to meet production requirements and the repairs of breakdowns or failures. There is little if any time or manpower being utilized for preventive maintenance.

Because many of the potential hazards cannot be seen, most people, including experienced and sophisticated electrical workers, will at times become slipshod in their work habits.

They see a wire that has a voltage on it, for example, and, some distance away another conducting medium such as a metal pipe, grating, or the earth itself. What they do not readily appreciate is that being in contact with the "live" conductor and with a grounded object, their bodies act as an electric conductor. They do not apply their knowledge of electricity, if they have it, to their own person. This is one of the principal reasons why utility linemen are so often involved in electric shock accidents.

About 80 per cent of electric shock accidents happen from contacts of the "voltage to ground" variety. If any part of the body is grounded, and any other makes con-



Plant distribution centers should be kept free of fuses and other electric accessories. They should also be kept locked to prevent tampering by nonqualified plant personnel.

tact with a voltage, a current will flow through the body. This is because voltage is maintained on an electrical conductor due to insulation from ground. Such insulation may be air, porcelain, glass, rubber, plastic, paper, cloth, or in fact a great many things that are commonly associated with the conception of "insulator."

Another thing that the average workman might not appreciate is that minute amounts of current can be fatal. Most employees are impressed with the fact that large currents may flow through certain electric devices. They do not seem to realize that this is not the amount of amperage that flows through a man when he receives an electric shock.

The value of current is determined by the voltage with which the man comes in contact. Voltages as low as 46 volts have been proven to be of sufficient magnitude to produce a fatal electric current and shock.

Actually, voltage is only one of six factors that operate simultaneously to produce the result of any electric shock – whether a "sting" or a fatality. The factors involved in determining the severity of any shock are these:

1. The type of current – ac or dc.
2. The path of current through the body.
3. The time that the current flows through the body.
4. The amount of current through the body.
5. The resistance of the body at the time of contact.
6. The voltage of the circuit contacted.

It is the actual amount of current, measured in amperes, flowing through the body that produces the electric shock. With a small amount of current, the sensation may be barely recognized. The amount of current required to produce a fatality is still small when measured against the current flowing through an ordinary light bulb. The path through which the current flows through the body determines to some extent whether the shock will produce fatal results. If the path of current involves the heart or lungs, the breathing may be interrupted or paralyzed or the heart may be thrown out of rhythm so that it is unable to circulate blood through

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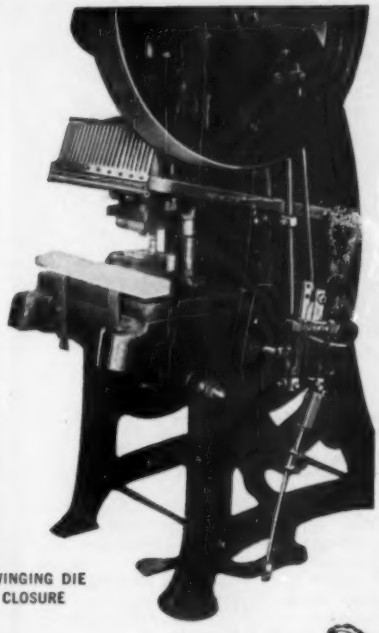

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CIRCLE 68 ON READER CARD

the body. The time the current flows through the path is important in producing these effects and the burns that often accompany electrical accidents.

Plan In Advance

One of the basic practices often overlooked is that a great deal of electrical work is done on live conductors when with planning and foresight, these conductors could have been de-energized.

A rule of thumb worth repeating is "Never work on live conductors if it is possible to de-energize them. If it is necessary to work on live conductors, treat the job with special precautions."

If more effort were spent in de-energizing conductors through planning, switching, and timing, a great many electric shocks would never occur. Only minor inconveniences and negligible expenses would be involved in arranging the work so that it can be performed on dead conductors. A positive attitude is needed to remove any obstacles that obstruct the possibility of working the job dead. In many instances, severe electrical accidents occur on jobs where the work is attempted while the conductors are energized but, immediately after the accident, the job is actually completed with the conductors dead and with no injury to personnel.

Check Safety Equipment

The equipment or tools used by the electrical worker are fully as important as his safe working habits. Close observation, on the part of the plant's safety engineer or supervisor, should be given to the following:

1. Rubber blankets, line hose, and insulator hoods. These items should be carefully examined for holes, tears, cracks, punctures, and soft spots. The thickness of the rubber is a measure of its protecting value and the weakest or thinnest spot is the true measure of its value as a safety tool. Rubber blankets should be rolled and stored in a cylindrical container. Line hose and insulator hoods should be kept in special boxes or containers away from other tools. If this safety equipment is packed while wet, it should be dried at normal room temperature as soon as possible.
2. Personal equipment. Rubber gloves should be examined carefully by checking for punctures, cuts, and cracks between the fingers. Trap a little air in the glove by rolling it down from the cuff end. This will blow up the glove and aid in detecting leaks. These gloves should always be worn with leather protector gloves to afford protection from mechanical injury to the rubber. These items should be placed in individual containers or compartments when not in use.
3. Hot line tools. The important item on such a tool is the wood or fiberglass handle. These tools merit special care and should never be left on the ground, either inside or outside the plant. They should have special canvas containers to protect them from moisture and abrasion. Periodic drying, sanding, and finishing with a preservative is recommended for wood. Fittings should be checked to see that they are firmly attached to the sticks and operate freely.
4. Miscellaneous equipment. Ladders, canthooks, bars, axes, and handsaws are typical. They should be checked for condition. Wood or fiberglass handles on such tools should not be taped as this might cover defects. Sharp tools should be provided with protection for the cutting edges when they are being transported.

Check Working Practices

Observation by the safety engineer or supervisory personnel will show whether a crew is working safely. Here are some suggestions:

1. The work should be well planned in advance. The foreman should be close to the work in order to direct the operations. Kidding or

Substations should be erected at a distance from the plant, and protected against unauthorized entry by fencing and locked gates.

horseplay is poor practice and indicates disregard for hazards.

2. Work practices with rubber gloves vary. When hot line tools are used, gloves may not always be required. When working on distribution lines, gloves should be worn. In fact, they should be put on before reaching the danger zone. Many plants require that gloves be worn before any electrical work is attempted.
3. Tools should never be thrown up to men on ladders or scaffolds or dropped to the ground. A canvas bucket attached to a hand line should be used.
4. Warning signs and barricades should be placed around the job area.
5. Make certain a first-aid kit and other medical equipment including drinking water is available for emergency use.
6. When working on switchboards and/or switchgear, make certain that: a) a rubber mat is used in front of the switchboard; b) the back of the switchboard is not blocked off and locked; c) nothing is stored in the enclosure behind the switchboard.
7. Switches and all electrical control equipment should be plainly marked to show what they control. A plant diagram showing all switching arrangements is evidence of good safety and work practices.

Education

Any basic safety education program should be intensive and continuous. Meetings of all electrical employees should be held regularly and artificial respiration should be practiced at each meeting.

A booklet prepared under the direction of the plant safety engineer or by a professional consultant and detailing safe operating rules is essential. This booklet must be used constantly in safety meetings with the experienced personnel and in the training of new men. If not, operating rules will soon be forgotten and bad practices will develop. The need for care must be constantly impressed upon electrical employees and the methods and safety rules discussed repeatedly.

One of the more effective ways of educating both electrical and nonelectrical workers is by means of demonstrations showing hazards

CIRCLE 69 ON READER CARD

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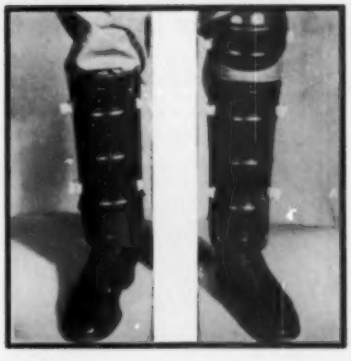
Knee Shin Guards

are formed to the contour of the leg, are light weight, comfortable to wear, allow absolute freedom of leg motion and provide the utmost in protection.
Fibre shin guard (right) style #300.
Fibre knee-shin guard (far right) style #310.



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CIRCLE 70 ON READER CARD

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QUIET environment
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HUSH outside sounds

The No. 45 has highest sound quieting efficiency. No rushing to distant shop office for important phone calls. Available for wall mounting or free standing on steel legs.

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Safety, mobility, plus
free use of both hands!

In event of fall, SAF-T-CLIMB* locks instantly and automatically. Worker can fall no more than 6 inches, even if he is unconscious. And worker can climb easily with both hands free to facilitate repair or inspection work.

SAF-T-CLIMB is easily and quickly installed on rung ladders, tower legs and peg ladders on wood or steel poles. Can also be curved to fit your requirements. Write for illustrated brochure on SAF-T-CLIMB.

**Previously called 'Notch-Lok"*

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SAFETY TOWER LADDER DIVISION
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CIRCLE 72 ON READER CARD

under controlled or simulated conditions. As already indicated, the electrical hazards of today are essentially the same that existed 20 years ago. The trouble is that hazards are not exposed as they were 20 years ago. The hazards are somewhat concealed in the streamlining of industrial apparatus and by hidden methods of wiring. Today workmen expect someone else to look out for them through proper design, installation, and operation of an electrical system.

If a suitable demonstration could be arranged to illustrate visually the hazards of electricity, it would be one of the more effective means of communicating the dangers. Since we are dealing with an unseen force, it would be necessary to dramatize the hazard and show sparks, flashes, or the blowing of fuses.

As a substitute for actual demonstrations under carefully controlled conditions on real electric equipment, several motion pictures have been developed.

A specialized form of the two media described above has been successfully used with electrical maintenance employees. This involves the use of case-history reports on actual electrical accidents, utilizing diagrams, models, and photographs. They have proved effective in conducting conference-type discussions with sophisticated electrical workers.

Regardless of how complicated the case may appear at first, it can eventually be shown that one of the fundamental hazards of electricity was involved.

Peak Hazard Season

Another factor to be taken into account in establishing programs to prevent electric shocks is the fact that approximately 60 per cent of industry's electrical shock fatalities occur during the warm summer months.

Good preventive maintenance, safe work practices, and education become of heightened importance.

Many reasons have been advanced for the phenomenon. In warm weather, the contact resistance of the body is reduced by the wearing of little or no clothing and by perspiration. Thus, any contact with energized conductors becomes a low resistance contact with the consequent higher current flowing through the victim.

Another factor, and one not to be overlooked, is the distraction that is prevalent among workers, including those not engaged in electrical crafts, during the summer months. Family activities are much more prominent at that time of year. Diversions such as boating, fishing, trips, vacations, and picnics, all tend to divert a man's attention. In addition, the higher temperatures tend to make people less alert than they are during the cooler months.

All of these acts combine to make electrical accidents and fatalities climb and peak during the summer months of May, June, July, and August. Furthermore, the heavy toll of electrical shock accidents is repeated year in and year out. Starting at the southern extremity of the country in Florida and going north as the season progresses, there will be a peak of contacts and electrical accidents reflecting the influences of perspiration, inattention, and distraction.

One of the distressing elements about electrical accidents is that almost every workman engaged in the electrical crafts has, at one time or another, experienced the flow of current through a part of his body. When the contact is made in winter, the skin is dry and there may be the added protection of clothing. Thus, the contact resistance will be high enough to keep the current at a level that is low enough to make it barely perceptible. In the summer, however, when the same contact is made, the presence of moisture in the form of perspiration will lower the contact resistance and tend to bring the many factors involved into a fatal combination.

When summer approaches, it is well to be reminded of the factors that tend to compete for attention with the job at hand, to produce distractions where concentration is needed, and to make an inadvertent contact with live wires a tragedy.

By recognition of the situation, jobs can be planned, protective equipment can be used, and work assignments can be given that will compensate for seasonal effects.

CIRCLE 73 ON READER CARD

YOUR BEST MOVE . . . MOVE with **MERRILL** MATERIAL HANDLING DEVICES FOR THE MOST IN *Safety and Economy*

Imitated, but never duplicated, Merrill Lifting Clamps are Drop Forged to give you Safety in Handling and Economy in Operation.

6 SIZES

FEATURING THIS MONTH

ADJUSTA CLAMP

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Over 25 Material Handling Devices described in our catalog C-3.

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MERRILL BROTHERS

Producers of Drop & Press Forgings

56-28 ARNOLD AVE., MASPETH, N.Y.

Fast Thinking Saves Sight

— From page 40

"Recently, I have been typing most of your letters and have noticed how invariably interesting they are. Not too long ago I wrote a letter to several people for you concerning eye injuries. There were detailed directions in some of them which told what to do in case a person accidentally spilled or sprayed a chemical into an eye.

"Last night my roommate was using some cleaning solution to clean the shower bar in our bathroom. The solution was a sample and the ingredients were unknown to us. She reached above her to spray some of the solution on the bar and pointed the nozzle in the wrong direction, thus spraying it directly into her eyes.

"It seemed to be quite painful to her and my other roommate and I were not quite sure what to do. I began to read the label on the can and when I realized that it didn't tell what the solution contained, I read the caution which said: "Keep away from eyes." Then I remembered that I had written the abovementioned letters for you and that you gave specific instructions in almost all of them to flush with cold running water for at least 15 minutes or until a doctor could be reached.

"Anyway, you can guess what happened. I pushed her head under the bathtub faucet and told my other roommate to call someone to come and take her to a doctor. After she got to the hospital they told her that she might have gone blind since her eyes had already been badly burned, had someone not known what to do. Now they believe that it will be only a temporary injury.

"Nevertheless, if I hadn't been working for the National Safety Council and writing your letters, I would never have known that it was the proper way to treat an eye injury.

"Thank you again . . ."

LEE BAKER

CIRCLE 74 ON READER CARD

STOP

athlete's foot with ONOX® skin toughener

Footsprayer cuts cost to 1/10 cent per treatment

One treatment with footmat costs about 1/5 cent

Skin specialists say the best way to prevent Athlete's Foot is to increase the skin's resistance to fungus growth*. That's what Onox does. It keeps your feet as tough and healthy as your hands. Used by clubs, schools, and over 70% of the largest U. S. companies for the treatment and prevention of Athlete's Foot.

**American Pub. Health Assoc., Oct. 15, 1954*

- **TRY ONOX 60 DAYS AT OUR RISK**
  If not satisfied, you owe us nothing. Full details on request.
- **FREE FOLDER**
  Write for "Facts on Athlete's Foot" including medical opinions.

ONOX INC.

Dept. A, 121 Second St., San Francisco 5, Calif.
Warehouses: Murray Hill, N. J. • Cleveland
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CIRCLE 75 ON READER CARD

EYE WASHING FOUNTAIN

SAVE EYES!

Leading industrial doctors advise immediate washing with plenty of running water as the best first aid treatment for any chemical in the eyes. Records prove that washing with water for ten minutes or more, close to the accident, is necessary to reduce or eliminate eye damage.

Forehead operation leaves hands free to open eyelids so water can be directed wherever chemicals might be lodged. Sanitary white baked enamel bowl is resistant to most fumes.

Over 500 industrial plant installations have been made to date.

Write For Details.

VALVE
Chain Operated
Quick Action
Self-Closing

NEW EMERGENCY SHOWER

The B & A Shower is the quickest and most satisfactory way to saturate a worker with gallons of water the instant an accident occurs, to prevent a disfiguring burn—even a fatality.

Special shower head, no holes to clog—can be used where unfiltered water prevails.

Write For Details.

GLASS SLIVERS AND CHEMICAL IN EYES!

DISFIGURING FACIAL CUTS AND BURNS!

CUTS AND CHEMICAL BURNS ON ARMS AND BODY!

THIS HAPPENS WHEN UNPROTECTED GLASS BOTTLES ARE BUMPED

NEW LOW COST B & A SAF-T-BAGS

are widely used for the safe handling of glass bottles containing harmful chemicals; also the storage and recovery of expensive serums, biologicals, and other costly products.

Painful cuts, disfiguring burns, loss of eyesight, or even a fatality, do result from corrosive liquid splash and flying glass when unprotected bottles shatter.

5 PINT
1 GALLON
5 GALLON

Write For Details.

BENSON & ASSOCIATES, INC.

Dept. NS—P.O. Box 7542, Chicago 80, Ill.

Safety Progress

— From page 48

versionary forces in two ways. First, you must continue to resist the siren call of alleged panaceas. Secondly, you must demonstrate as effectively as possible the worth of established safety measures.

The organized safety movement in this country is now about a half-century old. At this age, I am sure it is capable of demonstrating considerable maturity in meeting its challenges. Insofar as it does, you will not have to worry about the retarding influence of self-appointed experts.

At the same time, maturity must not dull intellectual curiosity and initiative. You know well that your basic programs, sound as they are, can be further refined and supplemented. While rejecting the obviously impractical, you must continue to adhere to the idea that innovations are both possible and desirable.

There are at least two compelling reasons for doing an ever better safety job.

One is the fact, of which I am sure you are aware, that each added measure of safety tends to be more difficult to achieve than the previous one. The law of diminishing returns goes to work unless efforts are constantly improved and intensified.

The other goal to continuing improvement of safety efforts is the fact that technological progress often brings new problems as well as benefits. There are those who deplore progress because of this. Actually, solving newly created problems is simply an inherent part of making progress through innovation.

There are also those who welcome change but who rashly undertake new activities without preparation.

The competent safety worker plays a key role in technological progress by educating both the fearful and the foolhardy. He makes new machines and methods serve us better by showing us how to live with them.

Since I am not a professional, I shall not presume to offer any technical suggestions for keeping safety abreast of progress. However, I should like to urge intensified action in one particular area – off-the-job.

This is a highly promising and largely unexploited field. The greater our progress in reducing work accidents, the greater the off-the-job accident problem looms in proportion as a threat to individual security, to industrial efficiency and to the general welfare.

In most cases today, the worker is safer on the job than off the job. More than two-thirds of the accidental deaths and more than half of the injuries to workers occur off the job. In companies with good work safety programs, the ratio of off-the-job injuries averages *7 to 1*.

Certainly, management's most important responsibility in the employe safety area is to help the worker avoid job-related accidents. However, helping him stay safe at home, on the road and elsewhere is a most desirable and quite feasible extension of a company's safety program.

The many companies already active in this area of safety promotion endorse it highly. And I am sure public safety authorities welcome this further support from their colleagues in industry.

Reference to off-the-job safety immediately brings to mind the biggest single part of the whole accident problem: highway traffic safety.

Because of its size and complexity, the traffic problem calls more urgently than any other phase of safety for intelligent thinking and aggressive action.

This need is further underscored by the fact that the traffic safety field has in recent years been particularly beset by self-styled experts with radical and ill-conceived proposals.

The current popularity of automotive safety engineering as a hobby for people in all walks of life has contributed little of importance, I'm afraid, to this highly technical field.

The general thesis of these amateur engineers is that cars could be made virtually foolproof and crashproof, that this is the only practical route to greater safety and that federal regulation of vehicle design is needed.

This thesis is, of course, wholly unrealistic. It also is a serious threat to a balanced approach to traffic safety.

To begin with, it is completely unrealistic even to talk about a foolproof and crashproof car. This is true because an automobile must

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Flash Welded!

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Taylor's Tougher

It's news! Taylor electrically flash welds ALL SIZES of TM Alloy Steel Chain! Every weld is positive, free of oxides and foreign materials. In addition, all TM Alloy Slings have patented Tayco Hooks—undergo rigid quality control, link-by-link inspection and scientific testing. These factors plus a signed Test Certificate assure maximum, trouble-free service and lower costs! Call your distributor or write direct for Bulletin 14-A today.

Chain is our specialty — not our sideline!

Taylor Made CHAIN SINCE 1873

S. G. TAYLOR CHAIN CO., Inc.
General Office: Hammond, Indiana
Plants: Hammond, Ind., and Pittsburgh, Pa.

still be something that people will want to buy and use. Safety, in any environment from a bathtub to a bomb shelter, is a relative term, not an absolute. In the case of the automobile, we can only design into it the greatest degree of safety that is consistent with other essential functional characteristics. Beyond that, we must depend on intelligent use.

The suggestion that we abandon hope of teaching drivers to avoid traffic accidents and concentrate on designing cars that will make collisions harmless is a perplexing combination of defeatism and wishful thinking. It is a little like suggesting that we neglect good health habits in favor of reliance on miracle drugs – and on some method of compelling people to take them. And it ignores the notable progress that so many states and cities have made in accident reduction through driver improvement.

Certainly, the design and performance characteristics of the automobile are a factor in the problem. Automobile manufacturers have long worked diligently and productively to make good driving easier and to provide increased crash injury protection. I hardly need detail the long list of improvements that have been developed and adopted.

I assure you that this progress will continue. New designs and devices will be adopted as rapidly as our research, development, and test work assures us they are practicable and desirable.

Progress will continue, that is, if we may continue to adhere to the approach that has produced the gains of the past. Every year's new model cars are safer as well as better in other respects, but these improvements are in response to forces at work in our free competitive economy – not in response to regulatory forces.

There is certainly a proper and productive role for government in safety promotion. However, the imposition of arbitrary controls as a substitute for strongly motivated voluntary action by competent engineers in industry might well inhibit progress.

There is little doubt that today everybody is for safety. This is true in the highway area as in other fields. I believe the vast majority of

CIRCLE 77 ON READER CARD

LOW C. G.

—more safety BALLYMORE Safety-Step LADDERS

Just as today's cars feature a low "c.g." for on-the-road safety, so Ballymore ladders feature a low "c.g." for all-level safety. The safe, wide-base pyramid design with a low center of gravity gives a new stability even at heights up to 15 feet.

Sturdily welded, corrosion-resistant steel and aluminum Ballymore ladders are mobile and can be moved easily on casters to any area. Simple tip-toe pressure anchors the rubber tipped feet to the floor and securely positions the ladder.

WITH OR WITHOUT HANDRAILS

For illustrated catalog covering complete line, write to
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WEST CHESTER 17, PA.

BALLYMORE
EQUIPMENT FOR WORKING *Safely* ABOVE FLOOR LEVEL

Call your LOCAL DISTRIBUTOR

people want to drive well and are deeply concerned about traffic hazards.

In my opinion, you don't have to sell highway safety as such. You have pretty well overcome any public indifference to your basic objective. To this extent the public is already with you.

Your major task now is to spell out and sell the measures that will achieve greater highway safety. This can be done – if three conditions are met.

First, always be sure that the measures for which you ask support are fully worthy of support. The public is not likely to buy an inferior idea just because its objective is safety.

Second, always do a competent selling job. The mere fact that safety is important guarantees neither an audience nor an impact.

Third, always be *specific* in seeking a public response. "Public support" is an abstraction that must be transferred into concrete terms. Tell people exactly what they should or should not do to reduce the number and severity of accidents.

It has been my experience that long term public information and education programs need frequent critical reappraisals.

It is wise to ask ourselves repeatedly:

Are we saying the right thing? Are we saying it clearly and persuasively? Are we really reaching people?

In sheer volume of publicity, traffic safety is probably second to no other good cause. And there is no question but that much of what is being done, both locally and nationally, is of excellent quality.

However, the persistent and proper emphasis of traffic safety workers on the need for greater public support suggests that the effort can and should be further improved.

The problem may lie in part in the fact that this is the one area of traffic safety for which responsibility is not clearly allocated. Perhaps the benefit of highly diverse participation in public information activities is being diluted by lack of fully adequate coordination.

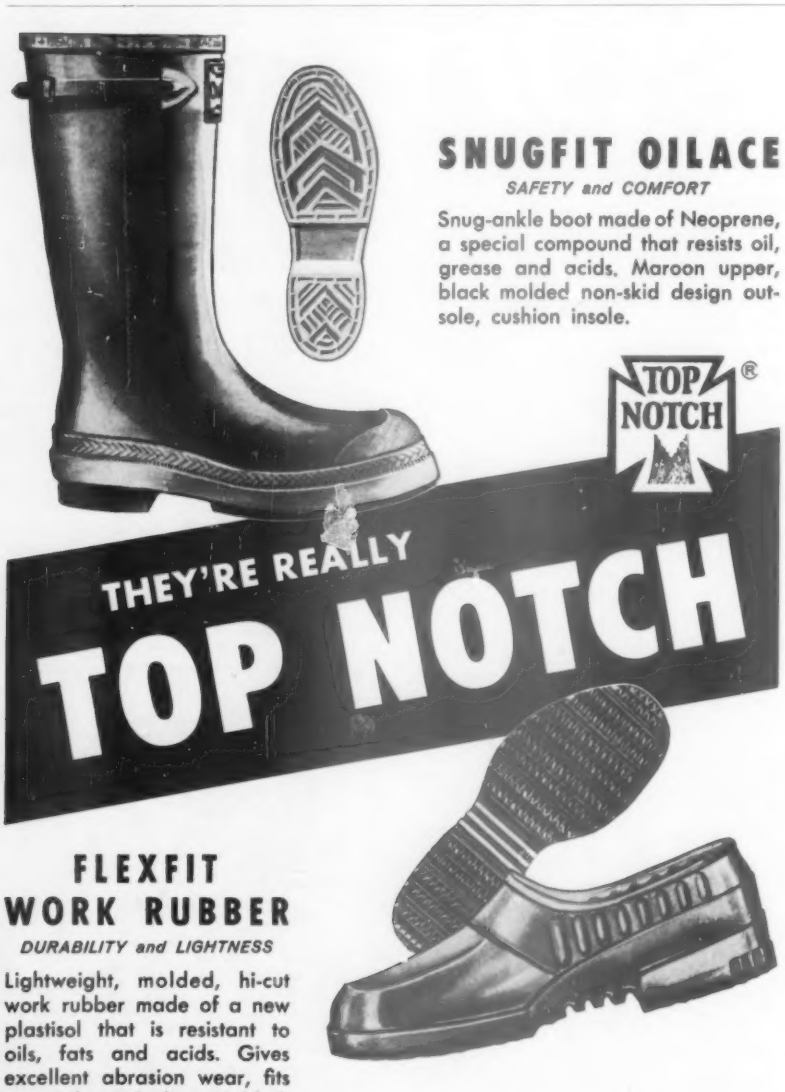
Or it may be that still higher performance standards in the field of safety communications must be defined and applied.

I do not pretend to have the answer, but I am convinced that this problem merits your continuing, earnest attention.

With public support for necessary action more fully mobilized, progress in highway safety will be greatly accelerated. People will no longer merely say, "Why don't they do something?" They will know what needs doing and they will help get it done– as good drivers, good parents, and good citizens.

Moreover, the benefits will extend to other fields of safety. Today, the term "highway user" doesn't mean a special class. It means just about everyone. Thus, greater safety consciousness on the road will have a broad and potent carry-over to every other activity where safety is a critical factor.

I have full confidence in the ability of the men and women of the organized safety movement to make accelerating progress – both in technical areas and in mobilizing public support.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SAFETY and COMFORT
Snug-ankle boot made of Neoprene, a special compound that resists oil, grease and acids. Maroon upper, black molded non-skid design outsole, cushion insole.
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FLEXFIT
WORK RUBBER
DURABILITY and LIGHTNESS
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CIRCLE 78 ON READER CARD

NEW SAFETY EQUIPMENT

Products listed in this section have been reviewed by a committee of the Industrial Department of the National Safety Council. Only those which comply with the advertising policy of the National Safety Council are accepted. However, the information is based on literature from the manufacturer, and the Council does not accept responsibility for statements or claims made herein. Nor does the listing of a product in this section imply endorsement by the National Safety Council.

Dual Charger For Emergency Lights

CARPENTER MFG. CO., 15 Bradley St., Somerville 45, Mass., has announced a line of Watchmaster emergency stand-by lights featuring automatic dual charging.

The dual charger maintains the rechargeable battery at full power during periods of non-use and restores the battery to full charge within 12 hours after complete discharge.

The units automatically provide illumination by means of self-contained battery power when normal lighting current fails. When current is restored, the lamps shut off automatically and the high charger is actuated.

This feature is available on models which permit mounting of up to 4 lamp heads on the control unit or remote powering of up to 15 lamp heads from one battery power source. Range of emergency illumination or time varies up to 30 hours depending upon the number of lamps used.

(Item 100)

Perforated Ceiling Provides Even Air Flow

The ARMSTRONG CORK CO., Lancaster, Pa., has developed an air-diffusion system, which employs a new type of ventilating acoustical ceiling that allows conditioned air to flow directly into a room at equal pressure and velocity through thousands of tiny perforations in the ceiling material itself. Air descends slowly on all parts of the room in a continuous, uniform blanket.

The system eliminates conventional diffusers and a substantial amount of ductwork. In many cases, a single stub duct can deliver the necessary volume of air to the plenum space above the ceiling.

The ventilating perforations in the acoustical material are blended in with the surface design. Five types of ceiling are available: travertone, minatone, minaboard, acoustical fire guard tile, and acoustical fire guard lay-in units. Acoustical Fire Guard provides time design, U.L. fire protection ratings up to four hours.

(Item 101)

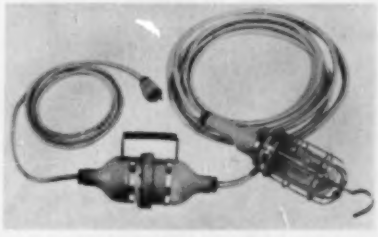
"Quiet Ear" Has Larger Cup

BAUSCH & LOMB, Rochester 2, N.Y., has announced its "Quiet Ear" noise protector. The 12-ounce unit has a larger cup than the original model, plus replaceable cushion and crown pads of polyvinyl chloride.

The versatility of the unit is enhanced by the composition of the padding material which remains soft and pliable over wide temperature variations. The cups, of gray impact resistant plastic, are attached to an adjustable headband.

(Item 102)

Low Voltage Light Is Now Portable



The DANIEL WOODHEAD CO., 15 N. Jefferson St., Chicago 6, Ill., has announced that their Safeway LoVolt portable transformers are now supplied with a carrying handle. The units deliver a secondary voltage of 6, 12 or 32 volts at the light source. All are supplied with a 75-watt, low-voltage, lamp. They are available with standard lamp guards, vapor-proof units, and with an explosion-proof hand lamp.

(Item 103)

Dust Hood Fitted With Respirator

ALBERT W. PENDERGAST SAFETY EQUIPMENT CO., has announced a lightweight dust hood fitted with a Bureau of Mines approved respirator. Wide vision is provided by a replaceable vinyl window. It is made of durable twill cloth and is provided with tightening straps under the arm pits.

(Item 104)

New Face Shield Headgear

An addition to its faceshield line has been announced by AMERICAN OPTICAL CO.'s Safety Products Div., Southbridge, Mass.

It is a plastic headgear which adjusts from sizes 6 to 8¼ through one-eighth increments. A lug on one portion of the headgear is placed into a slot on the other at the selected size. The lug then is locked into position with a leather strap. Once set to size, the shield may be slipped on or off without further adjustment.

A vinyl foam sweatband provides a cushion for the forehead and absorbs perspiration. It has an adhesive back to permit replacement. The new faceshield may be used with any of the firm's standard windows.

(Item 105)

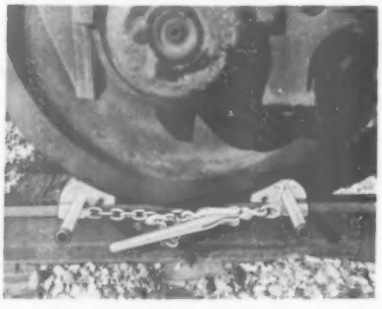
Welding Goggles Have Pliable Plastic Sides

A line of protective goggles for use with oxy-acetylene welding and cutting processes has been introduced by LINDE Co., division of Union Carbide Corp., 270 Park Ave., New York 17, N.Y., The Oxweld No. 27 soft side goggles are made with pliable plastic sides which fit snugly. They are designed to fit every facial contour while effectively sealing out light, sparks and spatter. They also can be worn over corrective eyeglasses. According to the manufacturer, the new goggles are not affected in normal use by the heat of welding and cutting operations, or by cold weather.

Flat ground and polished standard filter lenses are available for the new goggles in shades AA-3 to AA-8, in densities and thicknesses that meet Federal Specifications GGG-G-513 and GGG-H-211a. Hardened lenses which meet specification GGG-G-513 are also available for use where impact hazards exist.

(Item 106)

Safety Wheel Chock Uses Load-Binder Action



The ALDON Co., Dept. F, 3338 Ravenswood Ave., Chicago 13, Ill., has announced a portable double tension-type wheel chock.

The B-2 model has two chocks which are drawn tight and locked to both sides of the wheel by load-binder action. It can be used for piggy-back car blocking, and handles are provided.

The chocks weigh 16 lbs. per set and are easily set in place or removed from the track under car wheels. They are designed especially for trackage with grade elevations.

(Item 107)

Keep Workers Warm And Comfortable... And On The Job

You can add warm insulation to any safety hat or cap with Apex winter liners. They are custom styled to fit any head snugly, without wrinkles. Apex liners end chilling blasts of cold air on the back of the neck by extending well below the coat collar.

Every Apex winter liner is ruggedly constructed for economical long service. Expertly tailored long lasting fabrics are used that repel water, seal out wind. Chin straps with sliding buckle and snap assure a snug fit for any wearer.

Apex liners are easily attached and removed. Every liner is easily washed, your assurance of full sanitary protection.

For more information write for the new Apex Bulletin on Winter Liners

Serving Industry With Quality Safety Products

Safety Hats and Caps • Winter Liners • Eye Protection • Equipment • Shields • Magnifiers

apex SAFETY PRODUCTS
A Division of White Sewing Machine Corporation
801 W. Baltimore Ave., Detroit 2, Michigan

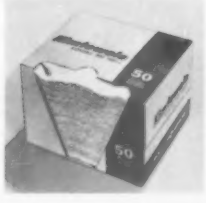
CIRCLE 79 ON READER CARD

Fiberglass Ladder Has Aluminum Rail

The Alco-Lite P400 fiberglass Platform ladder is one of a line of fiberglass industrial ladders now being manufactured by the ALUMINUM LADDER CO., Dept. F63, West Darlington St. Ext., Florence, S. C. The ladder is a non-conductor of electricity as well as being non-absorbent. It is designed to provide safety around high voltages and to resist the damaging effects of moisture, chemicals, acids, fumes, and gasses. The ladder meets ASA Code A14.2 for portable metal ladders.

High tensile strength aluminum steps, platform, and fittings are riveted to fiberglass siderails. The P400 has extra riveting and bracing throughout. Steps and platform are on nonslip design. With the top of the ladder serving as a safety rail, both hands are left free to work.

(Item 108)



Towels Are Reusable, Disposable

KIMBERLY-CLARK CORP., Neenah, Wis., has developed Kimtowels disposable shop towels, a wood cellulose product designed to be reusable. Two years of laboratory and field tests have shown that the towels will hold up through multiple applications.

The towel is said to be lint free and to have high tensile strength and absorbency. Tested in operations ranging from railroad locomotive shops to multiple spindle screw machine houses, it can be used for wiping bearings, cleaning gears, polishing gauges, and soaking up oil spillage.

Shipped in packages of 50, the disposable towels have a quarter fold and when unfolded are 13 by 15 inches in size. Metal dispensers are available and can be locked to prevent pilferage.

(Item 109)

Nozzle Converts High Pressure to Low

The Safe-T-Blow air nozzle was designed by JET ELECTRONICS CORP., 5404 Coal SE, Albuquerque, N.M., to provide the answer to the problems in industry where both high and low pressure demands are placed upon a common, compressed-air supply. The nozzle reduces nozzle pressure and air velocity while actually increasing the usable volume of air available.

The nozzle provides a large volume of air at low pressure and low velocity for cleaning and dusting purposes. It can be safely connected to any standard air supply, allowing direct interchangeability with air hammers, riveting guns, etc., that require 100 to 150 lbs. per sq. in. from the air supply.

(Item 110)

As we've suggested before—

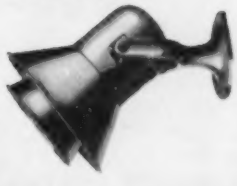
Unless you stop to think you can't appreciate how many problems they solve or eliminate completely.

There are many more places where signals can improve your safety record, where they can work for your greater efficiency and economy.

SIRENS, HORNS and BELLS BY FEDERAL—

they can be your willing, dependable and low cost servants.

Write for FEDERAL Catalog #100 today!

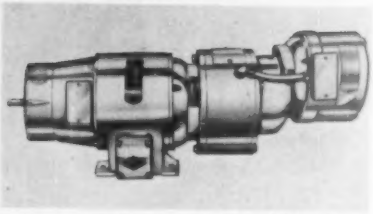


FEDERAL SIGNAL SIGN and Corporation

13625 S. WESTERN AVE., BLUE ISLAND, ILL.

CIRCLE 86 ON READER CARD

Crane-Hoist Motor Used For Delicate Loads



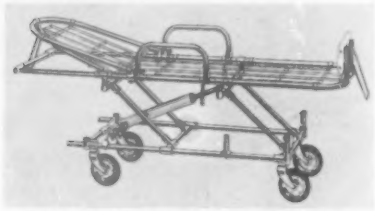
REULAND ELECTRIC Co., Alhambra, Calif., Howell, Mich. has introduced a new multi-drive, crane-hoist power package. Two individual motors, connected by a clutch, provide an extremely slow speed for delicate lifting – plus regular speeds for lifting and travel operations.

During normal lifting and travel operations the power is supplied by a slip-ring motor. This motor provides 5 individual speed steps with variations of speed and torque. The secondary "micro-speed" motor is cut in through the use of a dc clutch. The micro-speed motor incorporates a gear reduction unit with power transmitted to the load by the common shaft, through the primary motor.

The Micro-lift crane hoist motors are available in a large number of speed and torque combinations, magnetic brakes and gear reductions.

(Item 111)

Mobile Invalid Cot Has Hydraulic Lift



The Hydro-Level invalid cot, announced by the BOMGARDNER MFG. Co., 1384 Hird Ave., Cleveland, Ohio, lifts and lowers hydraulically to any level between its maximum limits for patient transfers, therapy, and recreation. It is consistently level at all heights. It includes an adjustable back lift and an optional automatic foot-drop. It uses four rubber-tired 7 in. caster-wheels with other sizes available and is constructed of aircraft aluminum and steel tubing throughout.

(Item 113)

AC-DC Generators For Fallout Shelters

WINCHARGER CORP., subsidiary of Zenith Radio Corp., E. 7th & Division, Sioux City 2, Iowa, has designed a series of emergency electric generators. The Universalite fall-out shelter engine generators provide independent electric power for lighting, ventilation, radio, hot plate, and refrigerator. Twelve volts dc is used for lighting and ventilation and 115 volts ac for radio, hot plate, and refrigeration. These units are powered by liquified petroleum (LP) fuel.

Two models in the series are remotely controllable with start-stop switch so that the engine generator can be suitably located adjacent to the fall-out shelter. The unit need not be operated continuously, yet lighting and ventilation can have uninterrupted electric power.

Model 102UPBB4D-1R27 uses an M143 Briggs & Stratton 4 pole, 1800 rpm, 1250 watts engine. Model 102UPBB2D-1R27 uses an M8 Briggs & Stratton 2 pole, 3600 rpm, 1250 watts engine.

(Item 115)

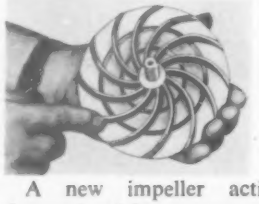
Unit Combines Stair Chair And Folding Stretcher

The Model 107 combination stair chair and folding stretcher has been introduced by FERNO MFG. Co., Greenfield, Ohio. The unit converts rapidly from a stretcher to a stair chair. Patient comfort and security is provided for by nylon retaining straps, an open foot well, a padded seat and a hinge that locks the chair frame in place.

As a stretcher, the unit is 72 in. long and lies flat and has rolling wheels plus legs. Wheels and legs fold under for storage. The unit folds to a length of 41 in., weighs 27 lbs.

(Item 112)

Impeller Action Shower Head



A new impeller action deluge shower head for emergency use where chemical and acid spills, clothing fires and similar industrial accident hazards exist has been developed by Speakman Co., Wilmington, Del.

This new principle in emergency shower design produces a drenching, swirling sheet of water which floods the victim's body to dousing fires and washing away harmful chemicals.

The device, designated the S-800 Lifesaver shower head, contains an adjustable face and self-cleaning feature designed to provide reliable, maintenance-free operation.

Swirling action of the water is produced by means of 12 impellers and two circular grooves which are machined in the face of the shower head. On operation, the unit discharges up to 63 gal. per minute at 20 psi flow pressure with a 1-in. supply line. Up to 160 gpm may be obtained with a 1½-in. supply line and flow pressure of 18 psi.

The shower head is 8 in. in diameter and is available in a number of materials including chrome-plated brass, lead-coated brass, and cast aluminum.

(Item 114)

Absorbent Prevents Winter Accidents

An all-purpose industrial absorbent, Wyandotte Zorb-All is recommended for the prevention of accidents from skids, slips, and falls on ice and snow-covered surfaces around entrances of office-buildings, hotels, hospitals, institutions and industrial plants as well as on streets, drives, ramps, steps, sidewalks and in parking lots.

According to the manufacturers, the absorbent will not irritate the skin, damage wood, metal, or rubber; harm shrubs, grass, fabric; or discolor or pit concrete. It is said to provide absorption of oils, grease, water, paints, inks, chemicals or other liquids. From J. B. FORD DIV., Wyandotte Chemicals Corp., Wyandotte, Mich.

(Item 116)

New Pump Has Bung Adapter

TOKHEIM CORP., Fort Wayne, Ind., has announced its Series 488 high-vacuum, double-action hand pumps for petroleum products.

Designed with a body of Du Pont delrin acetal resin the pump has a natural red color.

It operates by a back and forth motion of the handle, delivering fuel on both movements at the rate of 10 gal. per 100 strokes. Its flexible diaphragm is molded of a synthetic, wear-resistant material.

The series is equipped with a detachable, self-venting, bung adapter which simplifies installation and positioning of the pump; also with a sliding suction tube and built-in strainer screen. Spout models have a non-drip outlet. Hose models are equipped with a vacuum breaker to speed drainage, and 8 ft. of rubber hose with nozzle.

(Item 117)

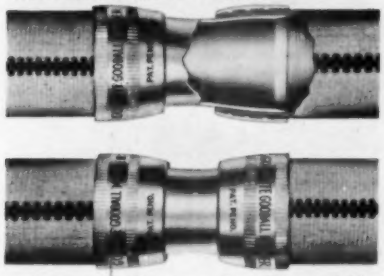
Fire Extinguisher Holder for Portable Welding Screens

A fire extinguisher holder for use with portable welding screens in welding or cutting operations is available from the Special Products Div., Singer Glove Mfg. Co., 860 W. Weed St. Chicago 22, Ill.

Made especially for Singer screens, it attaches with two wing nuts to the lower bar of the screen. Sliding sleeves and a set screw enable holder to accommodate extinguishers of up to 8 in. diameter. The unit is made of tubular steel and heavy steel rod with a black oxide finish.

(Item 118)

Fire Hose Mender Installed without Tools



GOODALL RUBBER CO., Dept. MA, Whitehead Rd., Trenton 4, N. J. has introduced a fire hose mender which requires no tools other than a penknife to install. It is designed to fit 1½ in. single jacketed, lined fire hose or unlined fire hose having an outside diameter not exceeding 1¾ in.

The unit weighs approximately five oz., and is made from a high tensile annodized aluminum alloy which meets Military Specifications, Type I. Hydrostatic pressures up to 700 psi will not cause leakage or collapse of the unit. It has F.M. approval.

The unit is to be used as a temporary mender only; it should therefore be kept in a conspicuous spot so that in an emergency, it will be readily available.

(Item 119)

Half Size Stretcher Canister

The A. E. HALPERIN CO., INC., Boston 18, Mass., introduced their new half size heavy gauge steel Stretcher Canister at the recent National Safety Congress Convention.

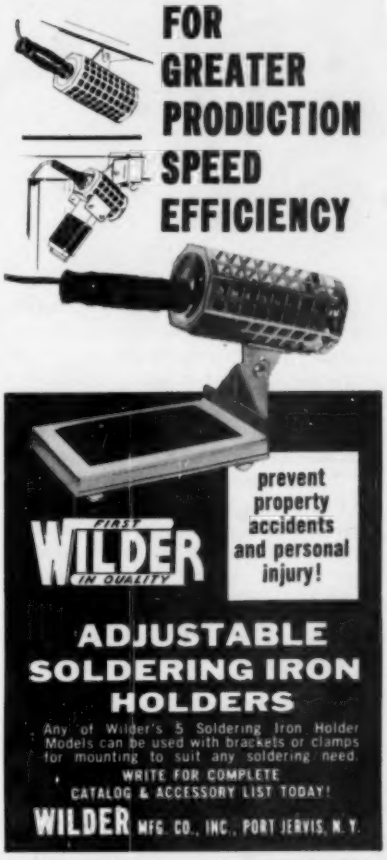
The unit measures 50 in. high by 7½ in. wide by 7 in. deep, and is finished in baked dark green enamel finish with the word "Stretcher" clearly visible in white lettering.

The Canister can accommodate the U.S. Army type stretcher folded, and can even include a full size blanket.

The steel Canister is fitted with a carrying handle and 4 drilled holes for easy mounting on walls.

(Item 120)

CIRCLE 81 ON READER CARD


FOR GREATER PRODUCTION SPEED EFFICIENCY
FIRST WILDER IN QUALITY
prevent property accidents and personal injury!
ADJUSTABLE SOLDERING IRON HOLDERS
Any of Wilder's 5 Soldering Iron Holder Models can be used with brackets or clamps for mounting to suit any soldering need.
WRITE FOR COMPLETE CATALOG & ACCESSORY LIST TODAY!
WILDER MFG. CO., INC., PORT JERVIS, N. Y.

CIRCLE 82 ON READER CARD

Wide Vision Mask Marketed

A Fiberglas wide-vision safety mask has been designed and is in production by the FIBRE-METAL PRODUCTS Co., Chester, Pa.

Designated No. 880, the new mask weighs 22 oz. complete with lens, uses lens size 4½ x 5¼ in. Recommended by the maker for welding and heavy-impact face protection. Can be used with conventional headgear or in conjunction with safety cap head protection.

Standard features are a new plastic headgear (NO. 3-C), ratchet head-size adjustment, overhead depth adjustment, free-float suspension joint arms, and all-aluminum parts for light weight and resistance to corrosion. Friction joints provide adjustment for lowering and raising of the mask.

(Item 121)

NEW FIRST AID SENSATION!

HALCO BURN KIT

Fully aware that there are specific locations which have a definite and pronounced hazard for burns, Halco research has designed the No. 65 Burn-Quel Burn Kit.

This Kit contains a large and varied assortment of Surgical Dressings and Medications as well as Burn-Quel Aerosol Burn Spray.

The Burn Kit is available in the new Kurv-edge style and is a moisture-proof, dust-proof First Aid Kit with NO sharp edges or corners.

A. E. HALPERIN CO., INC.

75 Northampton St. • Boston 15, Mass.

CIRCLE 83 ON READER CARD

New Agent, New Technique

The recommended technique for extinguishing fires with ANSUL CHEMICAL Co's "Foray," the new Underwriters'-approved extinguishing agent for all classes of fire, is somewhat different from that used in fighting fires with regular dry chemical, company fire engineers report.

The stream delivered by the new extinguishers is narrow and has a higher velocity and longer range than the regular dry chemical extinguishers. As a result, the extinguishing technique should be changed, especially for Class A fires such as wood, cloth, paper and rubber tires.

This means that the fire fighter should open the nozzle of his "Foray" unit approximately 10 to 12 ft. from the Class A fires, taking full advantage of the long-range stream. The flame is then extinguished, using a fast horizontal or vertical sweeping action, depending on the configuration of the burning material. In some cases, it may be necessary for the operator to move around to the sides or in back of the fire. Once the flame is extinguished, the operator should close the nozzle and kick the material apart, if possible. Additional "Foray" (which is actually specially-treated mono-ammonium phosphate) should then be applied to any visible glowing areas or to reflashes which may occur, using intermittent discharge to conserve the agent.

When applied to a Class A fire, the new agent clings to the hot surface, a thin fire retardant coating being formed which tends to prevent reflash. Ansul engineers point out it is not necessary to build up a heavy layer of the agent on the burning or glowing surface of Class A material to achieve extinguishment, since such a layer provides little or no increase in extinguishing effectiveness.

The recommended technique for extinguishing Class B fires is the same as that recommended for standard long-range models. On flammable liquids in depth and on spill fires, the nozzle is initially opened approximately 10 to 12 feet from the fire. The stream is directed at the base of the flames, using a side to side sweeping motion to gain full coverage.

As the intensity of the fire is reduced, the operator advances at the rate the flame front is being pushed back, until complete extinguishment is accomplished.

(Item 122)

Cleaner And Anti-Fog Liquid

A cleaner and anti-fogging liquid called Clear-Sight specially formulated for safety glasses, plastic face shields, and plastic goggles, is being manufactured by DI°CO, 2100 N. California Ave., Chicago 47, Illinois. The special emulsion incorporated will not scratch or mar plastic of any type. Available in 1 pint glass bottles for use at goggle cleaning stations and is also available in 2 oz. plastic squeeze bottle for individual or small group use at the work station.

(Item 123)

Safety Belt Uses Double-Sling

The ROSE MFG. Co., 2700 W. Barberry Pl., Denver 4, Colo., has announced its MK-61 double safety belt, designed to give the workman maximum stability. The double sling supports the worker sitting, standing, or half-standing, half-sitting, It is made of 6000 lb. test strength nylon webbing stitched to 3 in. wide cotton body pads.

The firm's line of belts includes model 151 steel workers belt, and model 146-2 construction workers belt. Accessories include model PC-5 positioning cable, model 321 tie-off throw strap, and No. 325 nylon tie-off line.

(Item 124)

PRODUCT LITERATURE

Available free from manufacturers, literature describing their safety products, and offering useful information on the care and use of safety products. To obtain, circle appropriate numbers on Reader Card.

Static Charge Removers

A data sheet for 1962 published by MERIX CHEMICAL CO., 2234 E. 75th St., Chicago 49, Ill. lists scientific papers which single out the firm's antistatics for permanent destaticizing effects. Plastics, such as light fixtures, can be kept free of static-caused dust attraction and static-caused shocks from carpets can be prevented.

(Item 126)

Abrasive Products

"Abrasive Products for the Construction Trades," a 42-page, 2-color booklet catalogs a complete line of abrasives and related products for the masonry and concrete trade. It is useful as a quick reference, reliable handbook based on more than 60 years of abrasive experience at the CARBORUNDUM CO., P.O. BOX 337, Niagara Falls, N.Y.

(Item 127)

Direct-to-Steel Fireproofing

Vermiculite Type-MK fireproofing is covered by a specifications and technical data sheet issued by the VERMICULITE INSTITUTE OF CHICAGO, 208 S. LaSalle St., Chicago 4, Ill. The mill-mixed material is designed for fire proofing steel floors, roofs, and beams by machine. Since the product has a set, application can be completed without delays caused by periods of curing. No primer or adhesive on the steel is needed.

(Item 128)

One-Man Foam Station

Information on a unit said to meet the need for "first aid" foam in quantities adequate to control sizable fires is available from NATIONAL FOAM SYSTEMS, INC., Union & Adams St., Westchester, Pa. Each foam station will produce up to 600 gpm of foam for as long as 30 minutes. These stations are designed to fill the gap during the first 10 or fifteen minutes until heavy equipment arrives. The unit consists of a steel cradle, a 55-gallon drum of liquid, a line proportioner and an RP-6a nozzle connected with 100 or 150 ft. of 1½ in. hose.

(Item 129)

Safety Rolling Ladders

Described in "Knock-Down" Ladder Bulletin SL-3 is the KDF "Trouble Saver" steel safety rolling ladders with photographs, technical details and complete specifications on all sizes. From the PATENT SCAFFOLDING CO., INC., 38-21 12th St., Long Island City 1, N.Y.

(Item 130)

Shatterproof Window Panes

Alsynite translucent fiberglass panes designed to resist breakage from frame twist, vibration, shock, thermal expansion, and impact of flying objects and to pass a soft, diffused light to interiors are described in a brochure from ALSYNITE, Div. of Reichhold Chemicals, Inc., 4654 De Sota St., San Diego 9, Calif.

(Item 131)

Explosion-Proof Motors

The LOUIS ALLIS CO., 427 E. Stewart, Milwaukee, Wis. has released a 4-page bulletin on electrical motors and drives used in the chemical processing industries. Featured are gear motors, adjustable speed drives, and explosion-proof, non-ventilated, drip-proof, and wound-rotor motors.

(Item 132)

Lighting Catalog

A four-page lamp catalog describes and illustrates a line of incandescent, fluorescent, combination, and magnifying lamps available from LUXO LAMP CORP., Dock St., Port Chester, N.Y. The lamps are designed for use over assembly and inspection benches, drafting tables, office equipment, and in laboratories. The lamps are UL and CSA approved.

(Item 133)

Ventilating Heaters

Designed for year-round use in underground public utilities operations is a ventilating heater which provides a constant supply of forced fresh air to ventilate manholes. The units are operated either by portable LP gas generators or from electrical drop lines. From MORRISON-PELSUE CO., 2001 S. Bannock St., Denver 23, Colo.

(Item 134)

Medical X-Ray Gloves

Descriptive literature is available on lead-loaded, non-toxic DuPont neoprene gloves, manufactured by a multiple dip process. The gloves have no seams, no stitched areas and contain no fabric. They are designed to provide maximum touch sensitivity and flexibility. From CHARLESTON RUBBER CO., Stark Industrial Park, Charleston, S.C.

(Item 135)

Steam Tube Failures

An 8-page booklet, "The Role of Copper and Physico-Chemical Factors in Steam Generator Tube Failures," examines factors contributing to tube failures in high pressure steam generators and discusses prevention methods. From DOW INDUSTRIAL SERVICE DIV., 20575 Center Ridge Road, Cleveland 16, Ohio.

(Item 136)

Safety Gratings

A safety handbook and design manual of industrial safety gratings and assemblies is offered by BUSTIN STEEL PRODUCTS, INC., Dover, N.J. Featured are Bustin "Firm-Grip" grating and Protecto-way grating for industrial safety purposes.

(Item 137)

Safety Solvent

Literature is available describing the solvent "Turco-Solv.," from TURCO PRODUCTS, INC., 24600 S. Main St., Wilmington, Calif. Offered in the solvent is a combination of detergent action plus controlled evaporation. The solvent is designed especially for in-place-spray-cleaning of electrical equipment.

(Item 138)

Wire Rope Selection

Bulletin 5702-R, "The Correct Wire Rope for Contractors' Equipment," is available from the MACWHYTE WIRE ROPE CO., Kenosha, Wis. Described in detail are construction features of the various wire ropes and their application in the construction industry.

(Item 139)

Crane Boom Alarm

A leaflet detailing an electronic signal alarm system for crane booms is available from CRANE PRODUCTS CO., INC., 3549 S. Industrial Rd., Las Vegas, Nev. Operators and ground crews are warned of approaching contact with "hot" overhead power lines, by any part of boom. The system senses the danger zone (electrostatic field) surrounding power lines and can be pre-set to actuate the warning alarm at distances from one ft. to several hundred ft., depending upon the voltage of the power line, which need not be known.

(Item 140)

Radiation Alarm System

A radiation warning system for any area where radioactive materials are stored, handled or transported is described in Bulletin GA-2, offered by NUCLEAR MEASUREMENTS CORP., 2460 N. Arlington Ave., Indianapolis 18, Ind. Known as the GA-2 gamma alarm system, it is self-contained 12 in. by 15 in. by 8⅝ in.-unit, wall-mounted, and operating from any 110 volt circuit. It detects and reports any unusual or excessive gamma radiation.

(Item 141)

Industrial Gloves

A full color, 20-page catalog illustrating the Wil-Gard line of protective gloves and finger cots has been published by the WILSON RUBBER CO., Canton, Ohio. Listed are the relative resistance ratings of Wil-Gard glove materials to common industrial solutions. Also illustrated are physical characteristics, such as tensile strength and heat resistance.

(Item 142)

Fastening Tools

A 4-page brochure, "How Hilti is Different" describes in detail the principles behind the Hilti system of power-actuated fastening tools. The system is used for fastenings into concrete, masonry, brick and steel. From HILTI, 73 Southfield Ave., Stamford, Conn.

(Item 143)

Smoking Stands

Literature available from EX-CELL METAL PRODUCTS CO INC., 2041 W. Churchill St., Chicago 47, Ill., describes a wide assortment of smoking stands and urns for both floor and walls. The units incorporate modern interior designs.

(Item 144)

Electric Hoist

DH-173, an 8-page catalog, illustrates and describes the Wright Speedway Framel electric hoists. Equipped with Wright's overload cut-off, the units are available in standard and close headroom models for capacities from 1000 to 6000 lbs.; with single or double reeving and single, two-speed or variable speed controls. From WRIGHT HOIST DIV., American Chain & Cable Co., Inc., 735 Hay St., York, Pa.

(Item 145)

Safety Floor Coating

Information is available describing a "no wax" floor coating. The substance contains no varnish, shellac, plastic or bakelite and is applied by damp-mopping only. LEO SILFEN, INC., Industrial Chemical Div., 525 4th Ave., Mt. Vernon, N.Y.

(Item 146)

Rubber Safety Wedge

A 2-page bulletin, available from JOHN G. SHELLEY, CO., INC., 16 Mica Lane, Wellesley Hills 81, Mass., describes their rubber safety wedges giving details and ordering information. The device can be used where cylindrical objects are handled. Used in long sections, it distributes wedging forces over a wide area.

(Item 147)

Hygienic Guide

Four additions to the hygienic guide series, "stibine," "phosgene," "n-butylamine," and "dioxane" have been published by the AMERICAN INDUSTRIAL HYGIENE ASSOCIATION, 14125 Prevost, Detroit 27, Mich. Each guide contains the most recent information on potential hazards, safe exposure limits, control methods, and specific medical procedures for the treatment of persons overexposed to the substance.

(Item 148)

Emergency Lighting

Information is available on a lighting package featuring automatic lighting upon loss of normal ac power, adjustable 25 watt lamps, trickle charge from 110/120 volt outlet to keep the 30 AHR battery charged, automatic timer for high charge rate control, built-in charger for 12 hour recharge after discharge of capacity. Underwriter's Laboratories approved. From GOULD-NATIONAL BATTERIES, INC., E-1200 First National Bank Bldg., St. Paul 1, Minn.

(Item 149)

USE AIR . . . SAVE FINGERS
SECOND FINGER $1,050.00
FIRST FINGER $1,200.00
THIRD FINGER $750.00
FOURTH FINGER $600.00
ENTIRE HAND $5,100.00
THUMB $2,100.00
LITTELL AIR BLAST VALVES
Automatic ejection of pieces by using a short blast of air permits the operator to give his entire attention to loading the die, thereby saving time and increasing output.
$29.00
LITTELL PRES-VAC SAFETY FEEDERS
. . . operate on a minimum of air—only 45 lbs. psi and handle parts from 2 to 10 lbs.
$35.00
Prices F.O.B. Factory
SAVE MONEY • SAVE TIME • SAVE HANDS • SAVE FINGERS
No. 22157
Write for FREE Catalog!
VAC-U-MATION DIVISION
4165 Ravenswood Avenue Chicago 13, Illinois
District Offices, Detroit and Cleveland

CIRCLE 80 ON READER CARD

NEWS ITEMS

New personnel, new plants and facilities, other newsworthy events in the safety product manufacturing and merchandising fields.

John J. Wilson

James S. Hubbard

E. S. Schmeling

Wyandotte Announces Field Changes

JOHN J. WILSON has been appointed district sales manager for the New York territory of the J. B. Ford Div., Wyandotte Chemicals Corp. For the past five years he was field sales manager in the Philadelphia district, directing the firm's line of restaurant and maintenance cleaning products.

JAMES S. HUBBARD, formerly the firm's New York manager, has been transfered to manage Cincinnati operations. Hubbard took over the New York post in January 1959, and for five years prior to that, was the Ford Division's Boston district sales manager.

E. S. SCHMELING moves from Cincinnati to a district sales manager position in Chicago. Schmeling has managed the Cincinnati territory for the past 11 years.

Palmer Appointed Ad. Mgr. for American LaFrance

T. SLOANE PALMER, previously advertising manager FPE, has been appointed advertising manager for American LaFrance, a division of Sterling Precision Corp., Elmira, N. Y. In his new position he will be responsible for advertising, sales promotion and public relations activities for all divisions of the company.

Palmer, who has had extensive marketing and advertising agency experience, will direct promotional programs for fire apparatus and fire extinguishing equipment.

Bickly Appointed Sales V.P. at Stephenson

ED B. BICKLY has been appointed vice president for sales at the Stephenson Corp., Red Bank, N. J. Bickly will supervise sales, advertising and public relations.

Bickly's background comprises 20 years of engineering and sales work, with 14 in sales management capacities on a regional and national basis.

John T. Monahan

Monahan Elected A Director of NSC

JOHN T. MONAHAN, general manager of American Optical Co.'s Safety Products Div., has been elected a director of the National Safety Council. His election came on the opening day of the Council's five-day annual congress in Chicago.

Monahan joined American Optical in 1944 as a development engineer.

R. Leo Prindle

Prindle Elected Edmont President

R. LEO PRINDLE has been elected president of Edmont Inc., Coshocton, Ohio. He succeeds EDWARD E. MONTGOMERY, company founder. Montgomery has been elected chairman of the board.

Prindle joined the coated glove making firm in 1952 as regional sales manager. He subsequently served as general sales manager, vice president for sales, and for the past four years has been executive vice president and a member of the board of directors.

Felix Grabau

Grabau Receives Acme Appointment

Acme Protection Equipment Co. has announced the appointment of FELIX GRABAU as assistant sales manager. Grabau has been a safety director and a sales specialist in respiratory equipment with Du Pont, Mines Safety Appliances Co., Globe Industries Inc., and Karel Supply Co.

Pepco Purchases Chemical Company

Pecks Products Co., St. Louis, has announced the completion of negotiations to acquire the Finger Lakes Chemical Co., Etna, N. Y. Consolidation of these two companies will result in the Finger Lakes Chemical Co. functioning as a subsidiary. The combined product lines of these two companies will broaden their scope of service by making available a more complete line of products, and will substantially reduce delivery time and shipping costs.

PEPCO manufactures metal processing compounds for industry; cleaning and sanitation products for hospitals, dairies, food processors, and bottlers, plus a complete line of janitorial cleaning supplies.

Dameron Enterprises Moves to New Location

DAMERON ENTERPRISES, INC., Louisville manufacturing chemists, has moved its headquarters, including offices and manufacturing and warehouse facilities, to 1600 S. Floyd St. The firm was formerly located on south 20th St.

The move is part of an expansion program which includes additions to its local sales staff and a stepped-up sales promotion program.

The company has also recently introduced an aseptic program, designed primarily for hospitals and schools, which utilizes newly-discovered methods for use of bacteriostatic and bactericidal sanitation products.

advertisers' index

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Morse Mfg. Co. *Material handling devices*	59	94
Mount Vernon Mills *Flame retardant fabric*	11	15
Onox, Inc. *Athlete's foot protection*	74	101
Patent Scaffolding Co., Inc. *Ladders & scaffolds*	15	51
Paulson Mfg. Co. *Face shield*	67	98
Pendergast, Albert Co. *Safety equipment*	61	95
Prairie State Products Co. *Safety signs*	23	58
Rockwood Sprinkler Co. *Fire fighting equipment*	45 10	80 13
Rose Mfg. Co. *Safety Belts*	42	74
Safety Box Toe Co. *Steel toes for safety shoes*	1	I.F.C.
Safety First Supply Co. *Disposable protective suit*	14	50
Safety Tower Ladder Co. *Climbing device*	72	100
Sawyer Tower, Inc. *Protective clothing*	55,60 64,68	92,94 98,96
Scott Aviation *Respiratory equipment*	6 26	7 61
Seton Mfg. Co. *Safety glass holder*	38	71
Silver, Fred Inc. *Safety mirror*	54	92
Speedi-Dri Division of Minerals & Chemicals Philipp Corp. *Oil & grease absorbent*	34	68
Standard Industrial Products Co. *Dunking station*	69	99
Standard Safety Equipment Co. *Protective clothing*	31 52	66 91
Standard Signs, Inc. *Safety signs*	49	84
Stonehouse Signs, Inc. *Safety signs*	19	55
Surgical Mechanical Research Inc. *Ear stoppers*	40	54
Taylor, S. G. Chain Co. *Sling chain*	76	103
Thermo-Chem Corp. *Aluminated clothing*	43	75
Union Wire Rope Corp. *Wire rope slings*	46	81
U.S. Borax & Chemical Corp. *Weed killer*	21	57
Wagner Sign Service, Inc. *Safety signs*	16	52
Wilder Mfg. Co., Inc. *Soldering iron holder*	81	109
Wilkins Co., Inc. *Lens cleaning station*	37	71
Willson Products Div. *Safety goggles*	9	11
Wilson Rubber Co. *Safety gloves*	8	9
Wyandotte Chemical Co. *Floor absorbent*	35	69

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National SAFETY NEWS

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The Advertisers' Index on the opposite page briefly describes products advertised and lists Key Numbers.

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Check this special section for newly introduced or improved safety products and services that you want to know more about.

- **PRODUCT LITERATURE**

Following the New Safety Equipment Section you'll find a listing of catalogs, special reports, other printed material that is valuable as reference data.

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1	16	31	46	61	76	91	106	121	136	151	166	181	196	211	226	241	256	271	286	301	316
2	17	32	47	62	77	92	107	122	137	152	167	182	197	212	227	242	257	272	287	302	317
3	18	33	48	63	78	93	108	123	138	153	168	183	198	213	228	243	258	273	288	303	318
4	19	34	49	64	79	94	109	124	139	154	169	184	199	214	229	244	259	274	289	304	319
5	20	35	50	65	80	95	110	125	140	155	170	185	200	215	230	245	260	275	290	305	320
6	21	36	51	66	81	96	111	126	141	156	171	186	201	216	231	246	261	276	291	306	321
7	22	37	52	67	82	97	112	127	142	157	172	187	202	217	232	247	262	277	292	307	322
8	23	38	53	68	83	98	113	128	143	158	173	188	203	218	233	248	263	278	293	308	323
9	24	39	54	69	84	99	114	129	144	159	174	189	204	219	234	249	264	279	294	309	324
10	25	40	55	70	85	100	115	130	145	160	175	190	205	220	235	250	265	280	295	310	325
11	26	41	56	71	86	101	116	131	146	161	176	191	206	221	236	251	266	281	296	311	326
12	27	42	57	72	87	102	117	132	147	162	177	192	207	222	237	252	267	282	297	312	327
13	28	43	58	73	88	103	118	133	148	163	178	193	208	223	238	253	268	283	298	313	328
14	29	44	59	74	89	104	119	134	149	164	179	194	209	224	239	254	269	284	299	314	329
15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330

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12	27	42	57	72	87	102	117	132	147	162	177	192	207	222	237	252	267	282	297	312	327
13	28	43	58	73	88	103	118	133	148	163	178	193	208	223	238	253	268	283	298	313	328
14	29	44	59	74	89	104	119	134	149	164	179	194	209	224	239	254	269	284	299	314	329
15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330

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MS-301

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Within the pages of National Safety News you'll find more safety products advertised than in any other safety magazine.

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MS-301

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NOW...A FIRE EXTINGUISHER WITH THE UNIQUE "SPARE" FEATURE—IN SPHERICAL OR CYLINDRICAL SHAPE.

In 1959 Ansul created and introduced the exciting idea of instant, on-the-spot recharging with its popular MONITOR. Now MERRIMAC—Ansul's new cylindrical 2¾ lb. dry chemical fire extinguisher, like the spherical MONITOR, features a throw-away shell and a spare charge that screws in like a light bulb. And like the MONITOR, it's Coast Guard Approved...carries a U.L. rating of 4 B:C...is admirably suited for the protection of boats, homes, autos, trucks, summer cottages. The only significant difference between the MERRIMAC and the MONITOR is shape—there are some places where the cylindrical MERRIMAC will fit better; others where the spherical, compact MONITOR is a more logical choice. The MERRIMAC also carries the same low list price as the MONITOR: $15.95...the same attractive discount schedule for marine dealers. For additional information or to place your initial order contact your marine jobber ...or write to us directly.

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ANSUL CHEMICAL COMPANY, MARINETTE, WISCONSIN

NEWS FROM AO

R-90 "Red Devil" filter can be inserted in seconds into R-2000 Respirator.

AO "Red Devil" variable density filter gives

Lower Breathing Resistance, Longer Life

Here's everything you want in a respirator filter—high efficiency, low breathing resistance and longer service life. You get it in the compact, lightweight R-90 "Red Devil" filter because of its variable density construction.

A red prefilter is thermally bonded to the gray final filter. Ultrafine asbestos fibers are dispersed through this final filter with a concentration gradient. Larger particles lodge on the prefilter during inhalation, while others enter the final filter until they cannot pass between the asbestos fibers. There is less breathing resistance than if dust piled up on the surface because the top three quarters of the filter works to trap and hold particles without plugging quickly.

AO "Red Devil" filters are approved by the U.S. Bureau of Mines for dusts not significantly more toxic than lead, pneumoconiosis-producing mists and chromic acid mist. They are one of nine interchangeable filters that make the AO R-2000 Series Respirator ideally suited to plants with several respiratory hazards. For details, consult your AO Safety Products Representative.

You get 9 respirators in 1 with the AO R-2000 and its interchangeable filters

Cartridge or filter	Hazard
R-90	All dusts and mists
R-15	Nuisance and pneumoconiosis-producing dusts
R-16	Toxic dusts not significantly more toxic than lead
R-17	All dusts not significantly more toxic than lead
R-31	Organic vapors
R-32	Acid gases
R-33	Organic vapors and acid gases
R-34	Ammonia
R-35	Dusts and organic vapors simultaneously

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